

SOUTH AFRICAN LIBRARIES

The Official Organ of the South African Library Association

Vol. 14

October 1946

No. 2

MESSAGE FROM MR. D. H. VARLEY

President, South African Library Association

It has long been evident that South Africa is deficient in her scientific equipment : not, indeed, in brains or resourcefulness, but in the material records of research upon which all future research must be based. The coming of microfilm is of immense significance not merely to the researchers themselves, who may be the first to benefit, but to all librarians who conceive it to be their duty not only to accumulate information, but to make it universally available.

In our country microfilm may have two main functions, not equally obvious. The first is to fill the hundred thousand gaps in our library resources with information that is up to date, easily displayed, and conveniently *and economically* stored when finished with. The second is to conserve and diffuse material that is already in this country : material of vast human and historical interest which is either physically decaying, or cannot be easily consulted in this land of great distances and telephone handshakes. In both realms we are still in the experimental stages,

and it is no bad thing that through our late arrival on the microphotographic scene we may possibly avoid some of the teething troubles of our colleagues in other lands.

This Special Microfilm Number of our professional journal is intended not so much to record the progress of microfilm in the world at large as to indicate particular ways in which it may prove to be of service to our heterogeneous South African communities. In this Age of Research no nation can afford to lag behind its neighbours, either in assimilating the work that they have done and are doing, or in making its own peculiar contribution to the common store of human knowledge. Hitherto handicapped, like other so-called small nations, by lack of manpower and equipment, and possibly by a pervading sense of isolation, South Africa, a microcosm displaying almost all known problems of science and human relationships, now has an increasingly vital and useful part to play in the achievement of a just, saner, and more ordered world.

SOME TECHNICAL ASPECTS OF MICROPHOTOGRAPHY¹

O. H. SPOHR

University of Cape Town Library

FROM a technical point of view it appears that microfilm reproduction techniques are still developing. It seems advisable before acquiring any equipment for making or showing microfilm to consult trade lists of the various manufacturing firms and to inquire for the latest publications on the subject. Cibella in his *Directory of microfilm sources* (N.Y., Spec. Libr. Ass., 1941) lists a great number of American libraries using photo-reproduction equipment. These could be consulted by libraries wishing to benefit from practical experience before purchasing microfilm apparatus.

De Sola² says: "Microfilming is specialized photography. It consists in the reduction of images to such small size that they cannot be read without optical assistance. . . ." *The British journal photographic almanack* prefers the word *microcopying*, as from a photographic point of view all such work comes under the heading *copying*. Greenwood calls it documentary photography, which provides photographically accurate records by the most rapid and economical method.

Since its inception microfilming in its application to libraries has been heatedly discussed, and facts have been often distorted and confused. To quote two instances: In advertising folders for microphotographic equipment the potential buyer is assured that with this equipment it "takes little or no experience to take micro . . . pictures", although highly skilled people are in charge of large microfilming plants, and smaller plants are installed, run in and serviced by skilled technicians. Dr. Joseph Broadman, a New York librarian, in a pamphlet published in 1945 entitled *Microfilms, their use and abuse* (New York, The Author), asks: "Shall we preserve originals made permanent, or be satisfied with mere photographs of originals which are admittedly not permanent?" We know, however, that millions of feet of microfilm of material have been made, which survived, while some of their originals were destroyed in the war; and we also know that much material would not be available to many a library in its original form but only on microfilm.

The cost of modern microfilm producing appa-

ratus is still very high, and, unless there is combined effort on the part of South African libraries, not many libraries will become interested in the actual making of microfilms. When reading apparatus is available again, I can visualize quite a large number of South African libraries installing it for their readers.

Every good miniature camera with an excellent lens can be adapted for microfilm work. But most of them carry only a limited amount of film, usually for about 30 to 40 pictures, and are, therefore, not suitable for any large-scale library copying. British and American camera firms have brought out a great variety of special microfilm cameras, ranging from approximately £75 to £1,250. In addition one usually estimates another 30 per cent of the camera price for a number of necessary accessories, such as filters, extra reels, etc.

The principle of most microfilm cameras is the same. They range from simple and inexpensive models to highly elaborate and often fully automatic instruments. Let us look at one of these cameras in detail.

On the top of the whole unit is a magazine. This accommodates a reel of 100 feet of 35 mm. double-perforated film—the sort of film we use for our miniature cameras. The actual negative obtained, the size of our photographed picture, is 1 by 1½ inches. This enables us to take 800 pictures on 100 feet of film. By means of a special mask, half only of the negative can be used especially when we photograph smaller objects. Then our film size is only 1 by ¾ inches, and 1,600 exposures can be made on to 100 feet of film. Below the magazine the camera is fitted with lens, shutter, and focusing devices. By means of an air pressure foot pedal the film is exposed and transported. That means once our camera is set for a certain size of book the hands are free to turn the pages over and to keep the object flat.

Illumination in photo-copy work is highly important. So next comes a set of highly-powered lamps in reflectors. Below the lamps on a special table is a copyboard, on which we place our object to be microfilmed. To ensure perfect reproduction the pages of a book or bound newspaper volume have to be flat. Usually they are kept under a heavy glass plate. For library work

¹ Paper read at a meeting of the Cape Branch of the S.A.L.A. on 6 April 1946, at Stellenbosch.

² De Sola, Ralph. *Microfilming*. New York, Essential Books, 1944.

a special book cradle is obtainable. It is a glass-topped box, in which an automatic spring system allows for the varying thicknesses of books and keeps the object flat all the time.

It is a good plan to provide on the film means for the quick finding and identification of individual parts. The numbering device on most of the cameras can be used to check the number of exposures made. At predetermined intervals a large index number or letter, somehow connected with the filing system, is photographed. Similarly one photographs the title of the film at both ends of each roll. For handling and protection, especially of the ends of a film, one leaves about a foot of clear film as a cover.

There are roughly three standard sizes of film in use—35 mm. and 16 mm. films are the most common ones; they are perforated on either side, and by means of these sprockets the film is moved through cameras and reading machines. There is also non-perforated film, brought out for the Eastman-Micro-File Recordak cameras. An air-suction device built into these cameras transports the film, and the reading machine must have a special accessory to show this type of film. This difference of size has to be borne in mind by librarians who order processed microfilm from overseas; the size must be that which their reading equipment can take.

From a processing point of view we differentiate between two kinds of film:

1. The *negative* film, often called the master film. This is used when more than one copy of the film is required or when photographic paper copies have to be made. From the master film further film copies can be made with special film printing apparatus. Such copies can be made again on negative film, for example, when the original master film shows wear and tear and has to be retaken. To show the film on reading machines or projectors the film is copied on to

2. *positive* film. When no further copies or no paper enlargements are wanted, one can photograph on to positive film in the first instance. To compare it with our amateur cameras: the negative film is the same as that which we buy as spools, while the positive is the picture we get from our spool after it has been developed and printed.

The material of which microfilm is made must be of the *safety film type*. The National Bureau of Standards in Washington in 1939 made researches on the stability and preservation of records on photographic film. The recommendations given by the Bureau can be summarized as follows:

1. *Nitrate film*, the film used in the cine in-

dustry and by many professional and amateur photographers, is *not suitable*. It is *unstable and highly inflammable*.

2. What is known as *safety film* is suitable for permanent record and specially useful in reading rooms, as it has some stability. The atmospheric storage conditions may be the same as for paper. Clean air, free from acid gases and dust, is imperative. To minimize damage to film by handling and scratching carbon tetrachloride is recommended as a cleanser and white cotton gloves for handling the film. Nearly all the great film manufacturing firms manufacture safety films for microfilm purposes.

For the bulk of microfilm work so-called orthochromatic film can be used, i.e. a film which records only black and white and ensures that amount of contrast which is essential for good reproductions. Where much material in colours—except proper art books—is microfilmed, panchromatic film should be used, a film which also records in black and white, but which in varying shades of white and black reproduces the value of all colours, especially red, which the orthochromatic film hardly registers at all. Proper art reproductions are difficult to microfilm and call for special filters, special films, and usually still daylight.

The actual processing, that is the developing, drying, copying, and printing of long lengths of microfilm, is a very involved technical process. Unless great quantities—i.e. a minimum of some 1,000 feet—are to be handled daily, it is highly uneconomical. Therefore authorities all agree that it is best to have the processing done by special factories.

The Use of Microfilm in the Library

To be able to read such highly-reduced film material we need some device specially designed to re-enlarge our material, to make it readable without strain and discomfort. For this purpose micro-readers have been constructed. Like the cameras they vary in size, projection possibilities, and so on, and in price from about £9 to £100. The principle of all of them is to hold film, either in strips or in 100-foot reels. They are usually adjustable to the previously-mentioned various film sizes. A set of magnifying lenses, a lamp, and a screen on which the film is thrown are essential parts. Some are portable, or table models, others independent floor models. Many are covered with a hood against outside light interference, and others have some arrangement attached, where one can take notes while reading the film. The film threaded in and the light

switched on, our first frame of the film is enlarged on the screen. By means of a turning handle the film is moved on from page to page of the book in its microfilmed edition. Certain reading machines can also be used as projectors, useful when we want to illustrate lectures with microfilmed material.

All technical material is liable to become due for repair at frequent intervals. It is advisable to make sure of some efficient maintenance service. It can also be recommended that one duplicates one's reading equipment, or, better still, that one should have a variety of reading machines, and so ensure the possibility of showing all standard sizes of film.

When in a library microfilm is used frequently, it is necessary to have a rewinder—a mechanism which winds the film back in its original sequence. Such a rewinder can be obtained for about £3. Films which are used often tend to tear or break and have to be mended. A splicer, as such an

instrument is called, is then used, with which one can mend the film by using a special film cement. The cost of a splicer is from £5 to £6.

The nature of the material calls for careful handling. It would be best in a library to entrust the handling of film to specially trained assistants who would thread in the films for the reader and would also attend to the rewinding and any mending of films. When microfilm is loaned out it is a good plan to check the film on return for any defects, which is best done by running it through a reader.

If microfilming and the use of microfilm develops and spreads, as it has done in the last few years overseas, we might picture the future library depleted of books, but consisting of filing cabinets for microfilms and long rows of reading machines in our reading rooms; and in our home, neatly placed between the wireless and the refrigerator, will be the microfilm reading machine.

MIKROFILM IN BUITELANDSE BIBLIOTHEKE ¹

DIRK L. EHLERS

DAAR word deesdae besonder veelaandag bestee aan die mikrofotografiese reproduksie van navorsingsmateriaal in die buitelandse biblioteekwêreld. Blaai 'n mens deur die biblioteektydskrifte wat b.v. in Engeland en Amerika die afgelope paar jaar uitgegee is, kom jy telkens op artikels oor mikrofilm af. Hiervan moet nie afgelei word dat mikrofilm iets uitsluitlik van die moderne tyd is nie. Byna honderd jaar gelede reeds was daar mense wat ernstige aandag aan mikrofilm geskenk het.

Die bekende Sir John Herschel het naamlik reeds voor 1853 die verreikende moontlikhede van mikrofotografiese reproduksie besef.² In die Frans-Pruisiese oorlog (1870) het Dagron mikrofilm gebruik om lang verslae per posduif na beleërde Parys te stuur. Metcalf beweer dat hy nog van Dagron se mikrofilm gesien het en dat dit nog geprojekteer en geles kan word vyf-en-sewentig jaar nadat dit gemaak is.³

In 1906 het Robert Goldschmidt en Paul Otlet (laasgenoemde van die Institut International de Documentation in Brussel) die wenslikheid en voordele van die gebruik van mikrofilm bepleit

¹ Toespraak voorgedra op 'n vergadering van die Kaapse Tak van die S.A.B.V. op Stellenbosch op 6 April 1946.

² *S.Afr.bibl.* 8 (3) 124 Jan. 1941.

³ METCALF, K. D. Implications of microfilm and microprint for libraries. *Libr.J.* 70 : 718-23, 1 Sep. 1945.

in 'n artikel : „Sur une forme nouvelle du livre le livre microphotographique.”⁴

Hoekom word daar nou so baie aandag aan mikrofilm bestee en van watter nut is dit vir biblioteke? Die antwoord lê voor die hand vir enigeen wat biblioteekwerk doen. Dit kan naamlik in aansienlike mate die voortdurende gebrek aan ruimte waarmee lewenskragtige, groeiende biblioteke te kampe het, verhelp. Dit word bereken dat elke navorsingsbiblioteek sy boekvoorraad elke 16 jaar verdubbel.⁵ Hierdie berekening laat 'n mens terdeë besef hoe belangrik die kwessie van ruimte op die lang duur gaan wees. Mikrofilm stel ons in staat om materiaal wat selde gebruik word, maar tog vir die biblioteek onontbeerlik is, in 'n baie meer kompakte vorm te herberg. Die bergruimte van nuusblaai kan b.v. met 95 persent verminder word.

Dit word ook gebruik om unieke en onvervangbare materiaal, wat nie uit die biblioteke of argiewe waar dit bewaar word gelaat kan word nie, aan navorsers en ander biblioteke beskikbaar te stel. Dit is ook 'n uitstekende metode om navorsingsmateriaal wat besig is om tot niet te gaan, vir die nageslag te bewaar, veral in die geval van nuusblaai en manuskripte. Die V.S.A. se Bureau

⁴ *Bull.Inst.int.Bibliogr.* 12 (1/3) 61-69, 1907.

⁵ RIDER, F. The Scholar and the future of the research library. 1944. bl. 3.

van Standaard het vasgestel dat selluloseasetaat-film (die s.g. *safety film*) net so lank sal hou as die beste papier¹; daarby is hierdie film nie ontvlambaar nie.

Aangesien mikrofilm 'n baie goedkoper proses van reproduksie is as die gewone drukpers, word dit ook gebruik om onuitgegewe materiaal, soos dissertasies, te publiseer. Die koste van die verfilming van een enkele eksemplaar van enige item is byna net so min as die markprys van een eksemplaar van dieselfde item as duisende eksemplare daarvan gedruk word.

Vir die duplikasie van katalogi in verband met die opbou van 'n gesamentlike katalogus (*union catalogue*) is dit vandag ongetwyfeld die doeltreffendste metode.

Hierdie paar gebruike put op verre na nie die moontlikhede van mikrofilm uit nie, soos blyk uit die feit dat dit in minstens een biblioteek in Amerika gebruik is om die uitleenroetine op suksesvolle wyse te bespoedig en te verbeter.²

Die voordele van mikrofilm kan dus saamgevat word in die volgende woorde: juistheid (dis 'n fotografiese proses), kompaktheid, duursaamheid en geringe koste. Daar is egter een groot hindernis aan die algemene gebruik daarvan verbonde: dit kan tot dusver nie sonder 'n leesapparaat gebruik word nie. Die apparaat kan nie deur die leek sonder hulp gebruik word nie. Daar was ook klagtes oor die leesbaarheid van die geprojekteerde teks en dat dit die oë te veel vermoei, maar met verbeterde tegniek kan dit uit die weg geruim word. Daar kan egter ook altyd positiewe af-drukke van die film gemaak en vergroot word, alhoewel dit taamlik duur is as dit nie op groot-skaal geskied nie.

Tot hoe 'n groot mate word mikrofilm reeds gebruik? In hierdie opsig, soos in so baie ander, het die V.S.A. weereens die voortou geneem. Voor die jongste Wêreldoorlog is egter ook in Duitsland 'n ambisieuse skema in die vooruitsig gestel, naamlik om ongeveer 600 biblioteke van die nodige apparaat te voorsien om mikrofilm te vervaardig en beskikbaar te stel.³ In Frankryk het beide die Bibliothèque Nationale en die Maison die Chimie in Parys reeds waardevolle werk op dié gebied verrig. Onlangs het ons berig ontvang dat die dokumentasiediens van die Franse ministerie van landbou bereid is om mikrofilm te verskaf aan inrigtings wat meewerk aan hul *International review of agricultural industries*.

In Engeland het manne soos Sayce en Page

reeds ver gevorder. Hulle beweer dat hul tydskrifartikels kan verfilm teen minder as wat dit sal kos om die band waarin dit voorkom per pos terug te stuur. Die Britse Museum en die Universiteit Oxford en Cambridge lewer reeds mikrofilm, terwyl King's College, Newcastle-on-Tyne, waaraan dr. L. A. Sayce verbonde is, oor 'n uitstekende laboratorium beskik.

Dit was in 1928 dat die Library of Congress mikrofilm op grootskaal begin vervaardig het. Dit was in verband met die s.g. *Project A*, waardeur reproduksies gemaak is van bronnemateriaal vir Amerikaanse geskiedenis wat beskikbaar is in vastelandse biblioteke en argiewe. Meer as twee miljoen bladsye uitgesoekte manuskriptmateriaal is verfilm. In 1941 het die American Council of Learned Societies deur middel van Library of Congress begin om navorsingsmateriaal wat beskikbaar is in Brittanje, te verfilm. Dit staan bekend as die *Emergency program*.⁴

In die tussentyd het die ander groot Amerikaanse biblioteke egter nie stil gesit nie. Die universiteitsbiblioteke van Yale en Harvard het albei in 1931 met mikrofilm begin en ander navorsingsbiblioteke het spoedig in hulle voetstappe gevolg. Die openbare biblioteek van New York het in 1935 die *New York herald tribune* en ook die *New York world telegram* verfilm. In 1939 het reeds meer as 50 Amerikaanse nuusblaai mikrofilm-uitgawes verskaf. Sestien Amerikaanse biblioteke het ingeteken op 'n skema om Engelse boeke wat voor 1550 gedruk is en in die *Short title catalogue* voorkom te verfilm. Elke biblioteek het onderneem om \$2,000, by te dra teen \$500 per jaar. Altesaam sal 400,000 bladsye verfilm word en die koste sal dus slegs ½ cent per bladsy bedra.⁵ In 1944 het reeds nagenoeg twintig biblioteke in die V.S.A. mikrofilm-reproduksies van materiaal in hul besit verskaf.⁶

Hierbenewens word mikrofilm, sowel as positiewe vergrotings daarvan, aan individue en biblioteke gelever deur die Biblofilm Service van die landboudepartement van die V.S.A., asook deur Library of Congress en die Medicofilm Service van die leër se mediese biblioteek. University Microfilms, in Ann Arbor, Michigan, het 'n metode ontwerp om skripsies teen billike tarief deur middel van mikrofilm te reproduseer.

Die name van 'n paar pioniers in Amerika mag nie verswyg word nie. Dr. Robert C. Binkley het as dosent in geskiedenis aan die Universiteit

¹ FUSSLER, H. H. Photographic reproduction for libraries. (1942) bl. 8.

² FUSSLER, op. cit. bl. 22.

³ *Aslib Conf. Proc.* 16: 77-83, 1939.

⁴ WILSON, W. J. Manuscripts in microfilm. *Libr. Q.* 13: 212-26, 1943.

⁵ FUSSLER, op. cit. bl. 18.

⁶ WILSON, L. R. & TAUBER, M. F. The University library. (1945) bl. 425-30.

van New York sy studente na die openbare biblioteek van New York gestuur om bronnemateriaal te besigtig. Hulle het egter die materiaal so hardhandig gehanteer dat Dr. Binkley oor die saak gesprek moes word. Sedertdien het hy hom hart en siel vir mikrofilm beywer en later selfs 'n gesaghebbende handboek, *Methods of reproducing research materials* (1936), geskryf. Vervolgens moet genoem word M. L. Raney en H. H. Fussler, van die Universiteit Chicago, wat een van die allerbeste laboratoria vir mikrofilm het; L. Bendikson, van die Henry Huntington Library, en K.D. Metcalf, vroeër van die openbare biblioteek van New York en tans van Harvard.

Alhoewel baie verbeterings in verband met mikrofilm verwag kan word as gevolg van onderfinding gedurende die oorlogsjare opgedoen, kan gekonstateer word dat dit in die V.S.A. reeds 'n hoë mate van doeltreffendheid bereik het. Daar is egter nog 'n aansienlike gebrek aan samewerking tussen biblioteke en gesamentlike beplanning van grootskaalse programme.

Ek kan nie afsluit sonder om na die stimulerende boek, *The Scholar and the future of the research library* (1944), van Fremont Rider, te verwys nie. Rider wil dat die tekste van navorsingsmateriaal in sterk verkleinde vorm agterop die gewone kataloguskaartjie aangebring word—250 tot 500 bladsye op elke kaartjie. Drs. Bendikson en Sayce het reeds vroeër beweer dat soiets moontlik kan gebeur. Vir die revolusionêre gevolge wat dit op biblioteke sal uitoeven, kan ek u slegs na Rider se uiters geesdriftige en vlotte betoog verwys. Die Readex Microprint maatskappy lê hul reeds toe op die maak van mikro-reproduksies. As navorsers eers daarin slaag om 'n eenvoudige leesbril te ontwerp wat soveel sal vergroot dat die leesmasjien uitgeskakel kan word, sal feitlik niks die sukses van die mikrokaart kan verhinder nie.

Hierdie fragmentariese oorsig toon m.i. voldoende aan dat mikrofilm in die buiteland 'n onontbeerlike hulpmiddel vir die navorsingsbiblioteek geword het en daar bestaan alle aanduidings dat dit steeds meer tot sy reg sal kom.

'N PAAR IMPLIKASIES VAN MIKROFILM VIR SUID-AFRIKAANSE BIBLIOTEKE¹

F. DU PLESSIS

NA die helder uiteensetting van die tegniek, praktiese toepassing en die ontwikkeling van die gebruik van mikrofilm kan ons ten slotte net 'n paar opmerkings maak oor die moontlikhede van mikrofilm vir Suid-Afrikaanse biblioteke.

By hierdie kort bespreking glo ons nie dat dit wenslik is om verder in te gaan op die onderwerp mikro-kaarte nie. Die saak leen hom op die oomblik nog tot te veel spekulasie en daar sal nog veel moet gebeur voordat die gebruik van mikro-kaarte algemeen prakties en alledaags word. Daarmee wil ek nie te kenne gee dat ons die moontlikhede van mikro-kaarte moet veronagsaam of geringskat nie. Intendeel, dit sal goed wees om in gedagte te hou dat, in historiese lig gesien, ons geen rede het om aan te neem dat die huidige vorm van wat ons „die boek” noem, staties sal bly nie.

Mikrofilm is egter reeds aktueel en algemeen aanwendbaar en om te praat van die implikasies daarvan vir die biblioteek, en vir Suid-Afrikaanse biblioteke in die besonder, is nie meer net spe-

kulasie nie. Die algemene moontlikhede van mikrofilm vir die biblioteek het reeds geblyk uit die twee voorafgaande besprekings.² Ons kan dit kortliks soos volg opsom: Biblioteke kan dit bekostig om afdrucke van skaars of unieke boeke en manuskripte te bekom, waarvan hulle nooit sou kan droom om die oorspronklike werke te besit nie; en hulle kan dit beskikbaar stel vir hul lesers of navorsers. 'n Biblioteek kan mikrofilm-reproduksies van tydskrifte leen van ander biblioteke wat vroeër botweg sou geweier het om sekere belangrike uitgawes uit te leen. Teen geringe koste kan materiaal soos koerante vervang word deur mikrofilm-opnames en sodoende voorsorg gemaak word vir die behoud van inligting wat andersins gevaar geloop het om verlore te gaan as gevolg van die verganklikheid van die materiaal. Ook moet ons onthou hoeveel oorseese materiaal in hierdie pasafgelope oorlog gereproduseer is wat miskien in geen ander vorm ooit beskikbaar sal word nie. In verkleinde vorm kan biblioteke afdrucke van reproduksies kry van feitlik alle soort materiaal waarvoor daar groot aanvraag is.

² Vgl. bl. 34 en 36 van hier die uitgawe.

¹ Toespraak voorgedra op 'n vergadering van die Kaapse Tak van die S.A.B.V. op Stellenbosch op 6 April 1946.

M.a.w.: Navorsingsbronne wat net in groot biblioteke te vind is, kan nou in kleiner biblioteke verkry word.

As ons nou Suid-Afrika, 'n jong land met 'n jong kultuur, in verband bring met die bogenoemde voordele en moontlikhede, kan ons nie anders as om die eksploitasie van mikrofilm as van die opperste belang te beskou nie. Maar ons kan liewers die algemene opheffing van ons standaarde vir die oomblik aan die verbeelding oorlaat en let op die implikasies van mikrofilm aan die hand van 'n paar probleme wat ons werk daaglik belemmer.

Die gebrek aan 'n behoorlike gesamentlike katalogus. Die huidige poging tot die opbou van 'n gesamentlike katalogus, hoe moedig ook al, is uit die aard van omstandighede nie verteenwoordigend van al die bronne in die land nie. Nou is dit moontlik dat die katalogusse van al die vernaamste biblioteke in die land gefotografeer kan word en die reproduksies kan as basis dien van 'n behoorlike gesamentlike katalogus.

Tussen-biblioteekse lenings. Alle bibliotekarisse en biblioteek-assistente weet watter afmetings hierdie gebruik deesdae aanneem, en hoe swaar dit soms is, nie alleen om die waardevolle besittings van jou eie biblioteek uit te leen nie, maar ook die nog swaarder taak om ander biblioteke te vra om onvervangbare werke aan jou te leen. Die gelukkige besitters van materiaal wat ander biblioteke nie besit nie sou tans mikrofilm aan ander inrigtings kan stuur, of selfs verkoop.

Proefskrifte, skripsies en ander resultate van navorsingswerk. Aan elkeen van ons universiteite is 'n massa navorsingswerk gedoen wat behoorlike verspreiding verdien, maar wat tans net beskikbaar is by 'n enkele inrigting wat gewoonlik net een of twee getikte eksemplare besit. Mikrofilm maak dit moontlik dat alle universiteite, kolleges en inrigtings waar navorsing gedoen word onmiddellik kan deel in die resultate van studie wat aan ons opvoedkundige en ander wetenskaplike inrigtings gedoen word. (Selfs belangrike „Blouboeke” kan goedkoop gereproduseer word).

Skaars werke. Dit behoeft geen betoog dat van ons belangrikste Africana gereproduseer en algemeen versprei behoort te word nie, sodat hierdie bronne-materiaal maklik bekom kan word op enige plek in ons land. Onwillekeurig dink 'n mens aan die poging van die Verenigde State om reproduksies van alle Americana wat in die buitenland verkeer te laat reproduseer en sodoende die leemtes aan te vul. Vir Suid-Afrika kan so'n poging ook in die vooruitsig gestel word i.v.m. Africana.

Dit bring ons dadelik by 'n volgende oorweging, nl.: Sonder deeglike organisasie tuis en samewerking met ander inrigtings kan geen enkele biblioteek die volle vrugte pluk van die voordele wat hom deur mikrofilm aangebied word nie. Met organisasie tuis bedoel ons dat elke biblioteek deeglik op hoogte sal wees nie alleen van wat daar is aan sy waardevolle besittings nie maar meer nog, watter leemtes daar in sy versamelings bestaan. As hy nie op hoogte is nie moet middele in werking gestel word om hierdie gebrek aan te suiwer. In baie gevalle sal die rekords van wat gereeld van ander biblioteke geleen word al as basis kan dien.

In verband met samewerking het ons alreeds melding gemaak van die opbou van 'n gesamentlike katalogus met die hulp van fotografie en die uitruil van proefskrifte in die vorm van mikrofilm. Daarby kan net nog genoem word die wenslikheid dat biblioteke mekaar op hoogte sal hou van wat hulle van plan is om te reproduseer. Dit sal baie onnodige oorfleueling en verdubbeling van arbeid voorkom.

In wat vooraf gegaan het, het ons 'n toestand geskets wat net moontlik sou wees as alle biblioteke oor die nodige apparaat beskik. Die gedagte dat dit ooit sal gebeur is te Utopiaans. Daar sou selfs dan 'n sentrale organisasie nodig wees en dit is waarmee ons nou al kan begin.

In hierdie verband wil ons voorstel dat die Kaapse Tak van die Suid-Afrikaanse Biblioteekvereniging op die komende Kongres van die Vereniging op Bloemfontein die saak aanhangig maak en die volgende voorstel maak: Dat 'n komitee van die Suid-Afrikaanse Biblioteekvereniging aangestel word om in aanraking te kom met die Suid-Afrikaanse Wetenskaplike en Nywerheidsnavorsingsraad met die doel om die moontlikheid daarvan te bespreek dat laasgenoemde inrigting die middele daar sal stel vir die maak en reproduseer van mikrofilm. Die nadere bewoording kan aan die Kongres oorgelaat word; tentatief sou ons net wil sê dat die voorstelle kan gaan in dié rigting dat die Nasionale Raad 'n afdeling stig wat as laboratorium kan dien vir die maak en reproduseer van mikrofilm, dat hierdie afdeling sal dien as loslatings- en distribusie-sentrum vir die mikrofilm-werk van Suid-Afrikaanse biblioteke en ook sal dien as kontakpunt met dergelike organisasies in die buiteland.

Ons wil hoop dat 'n organisasie met so 'n grootse opset soos die Suid-Afrikaanse Wetenskaplike en Nywerheidsnavorsingsraad dit moontlik sal vind om hierdie uitstekende medium vir die verspreiding van kennis werklikheid te maak in Suid-Afrika.

LIBRARIES AND THE CHANGING AIDS TO RESEARCH*

P. FREER

"One's ideas are, after all, merely those of others modified to suit one's own needs . . ."¹¹

FROM the title of the address appearing on to-day's Agenda: "The Book and the Bomb", you might well expect to hear terrifying tales of bomb-shattered libraries, or a little about our part in restoring them. The value of conferences, however, is not assessed by the sensations they produce, and my appearance on the bill at all is due to a secretarial S.O.S. to lend our programme a bibliographical flavour rather than to produce an atomic effect. With a humble apology for misleading you I shall proceed to speak about "Libraries and the changing aids to research". And so, having left my Procrustean bed, I am now free to let my fancy roam in the "Library of the future", whose service to science and technology is already discernible as special librarianship.

The modern special library profession owes its origin to John Cotton Dana, who in 1904 formed a business library at Newark, N.J., and to the foundation of the Special Library Association in 1909. In England, the corresponding body, Aslib, held its first conference in 1924. Last year its twenty-first birthday present took the form of government support, made through the Department of Scientific and Industrial Research.

Here the newly established South African Council for Scientific and Industrial Research (C.S.I.R.) has just appointed its first librarian from the cradle of our profession. This appointment is of the very greatest importance to us, for it puts our profession on the map as never before; it pin-points special librarianship, and assures women librarians a larger place in the sun. We can now anticipate the Germiston trio's† working in Pretoria for the common good, and especially to remove those disadvantages of isolation and unawareness that have hitherto handicapped South African research. I would draw your attention to the title of Miss Mews's post: that of "Research Officer in charge of The Library and Information Bureau". It serves to remind us of our responsibilities for the education, qualifications, and training required for special librarianship, where the unsuited find neither

place nor peace, where the textbooks are merely in embryo, and its literature is termed documentation. It may call for an early revision both of nomenclature and of syllabus. Authorities are not yet agreed as to what are, or who possesses, the qualifications most nearly approaching the ideal. People of general library training and good general education have been brilliantly successful in the library aspects of the work of an information department. On the other hand some prefer specialists with some training in librarianship. Others again prefer pure specialists. In a big organization undoubtedly the best results would be obtained if all worked in complete co-operation. Professor Bernal, while suggesting that the librarian should also be master of the material itself and understand all subjects, admits that this is an impossible demand, and that it asks more of the librarian than of the research worker.⁴ The range of work could hardly be covered by any one type, especially so long as 99 per cent of the recruits to librarianship are graduates in Arts. From the trend of events, however, we must anticipate, and even encourage, a rush of recruits wishing to take "University and Special Libraries" in their Final.

In order to discourage the general utility worker from usurping our functions, we need only prescribe for him a course in bibliochresis, in the use of books and libraries; to remind him that "Bibliography is as complicated as anatomy, as intricate as physics, as certain as history and as interesting as life itself. . . . Few will deny the necessity of library studies as a discipline for the self-conceit of the researchful mind . . . for this is not the time to urge less use of the library, but to encourage research workers to follow the literature as never before."¹⁶

"Hardly anything more humiliating can happen to a research man than to publish what he thinks is his own original research, and then have somebody step forward and point out that the work has been done previously and has been published in some journal which he should have consulted. . . . In . . . industry thousands . . . are frequently spent on experiments to find out facts which have long ago been discovered."¹

* Paper read at the Annual Conference of the S.A.L.A. Bloemfontein, 25 April 1946.

† Miss Mews, Mr. Stirling, and Mr. Borland.

"The difficulties of scientific libraries, the meagre funds sometimes allocated to them and the devoted labours of those who work obscurely in them for the benefit of science are often not adequately appreciated by those who would be the first to maintain that libraries are essential tools of research. It would, indeed, do most undergraduates and research workers in science departments no harm to work for a month or two in a library; for only those who have sufficient imagination can realize, without this practical experience, all the labour and organization which goes to the making of an efficient library service."²¹

The Stock

The late Dr. Harvey Cushing remarked that "... the soul of an institution that has any pretence to learning comes to reside in its library. ... Mere numbers of books, to be sure, is no measure of the usefulness and value of a ... library. Its real value depends on the completeness of its journal files and important source-books, not on textbooks of ephemeral interest. ..." He then goes on: "Periodicals, while forming two-thirds of the stock of a special library, vary to an incredible degree and with no seeming rhyme or reason other than the fancy of the publisher; in their form, in their make-up, in their pagination, in their dates of issuance. There are 'new series' and 'old series', with changes in volume-number, with changes in name, with changes in format. What once was a quarto becomes an octavo; volumes may cover irregular periods of time, and have no relation to the calendar year; some use Roman numerals, some Arabic, there may be several sets of paging in the same volume; there may be separately paged supplements, serially paged advertisements and text. Journals may suddenly go out of existence with no obituary notice; or, without publishing the banns, they may intermarry and reappear hyphenated, scarcely recognizable in their new alliance. ... It will be a happy day for these long-suffering [librarians] when Ostwald's *Weltformat*—the size of the *Index Medicus*—comes to be obligatory for all ... journals."¹¹ For a time colleagues continued to discuss "The Ideal form in which a journal should be produced, from the librarian's point of view".⁶ More recently we have had ideas for "Streamlining production and distribution of current periodical articles",³⁴ and a "Draft plan for the publication of scientific papers".²² Professor Bernal says: "We [scientists] have come to realize that the unity and complexity of science has [!] grown to such a degree that the library and information service has become a key to conscious progress

along the whole front of advancing knowledge ... [that] librarians alone are able to appreciate the need for order and uniformity in the presentation of information. ... The primary unit in scientific publication is the individual scientific paper dealing comprehensively with one topic. ... The scientific journal has ceased to be a really satisfactory means of distributing scientific information", and, while admitting that the nuisance may be mitigated by "photostat" and microfilm methods, he fears that, unless a new medium is found, the literature of scientific research will be choked by its own productivity.⁴ While, indeed, the Councils of Aslib and the Association of Scientific Workers consider certain proposals for the "Reform of the system of scientific publications",²⁴ let us turn our attention to

*Document Photography*¹⁵

Rider's book: *The scholar and the future of the research library*,²⁵ discusses the great problem that research libraries the world over are facing to-day, namely, their mushroom growth, and suggests a possible solution in micro-cards, for, instead of collections doubling themselves once every 25 years, the period now required is nearer fifteen. There are several alternatives open to help solve this problem: (1) Acceptance of the situation; (2) Use of phonetic spelling, for books in English;²⁹ (3) Compacter stack storage; (4) Selective acquisition; (5) Continuance of the "authorized war economy standards"—on India paper; (6) Reduction by "offset" to a standardized size; and (7) High-reduction photography, as in micro-photography.

The general methods used to produce photographs in document work fall into two groups, sometimes called optical and non-optical methods. The first involves some form of camera; the second comprises all those methods not involving a camera. Group one includes the "photostat", a trade name, which may use sensitized material in the form of paper in rolls, flat film, or 35 and 16mm. film in models using microfilm. Group two employs one or other of the methods of contact or reflex printing. Some well-known members of this group are the Rectophot, Retocce, and Ruthurstat. They do not require a dark room.

History

Microfilm is not an idea for a hundred years hence. Indeed, microfilms were produced a hundred years ago. Already in 1840 the first microphotographs were produced by the Daguerreotype method.⁹ "The idea of making and publishing microphotographic reproductions of reference

works, mathematical and technical data, not readily accessible to the student or the general public, seems first to have occurred to Sir John Herschel at some time prior to 1853. . . .²³ Dagron made use of the micro-photograph in his pigeon post during the siege of Paris, 1870, foreshadowing our modern postal airgraph system.²⁴ In 1878, Henry Stevens, of Vermont, wrote that "Photograms attached to . . . printed slips have . . . given way to reduced facsimile electrotype-portraits. . . [4by7 in.]."²⁵ In 1907 Goldschmidt and Otlet published a paper: "Sur une forme nouvelle du livre: le livre microphotographique".²⁶ Goldschmidt alone, in 1910, invented the bibliophoto, an apparatus for photographing the successive pages of a book or MS. on a cinematograph film.²⁷ In 1933 Bendikson described how he overcame the difficulty of making "micro prints" easily legible, in an article entitled: "When filing cards take the place of books".²⁸ Professor Sayce, writing in 1938, said: "It will not be long before we can print 500 pages or more upon a stiff film of the size of an ordinary index-card",²⁹ and last year he showed how 1,000 pages could be printed.³⁰ In August 1941 the Airgraph Service was inaugurated. It has been termed the outstanding example of the benefits document photography can confer on mankind. "In outline the method employed is to photograph letters measuring 11 inch \times 8 inch on to [16mm.] film at such a degree of reduction that the photographic images occupy only about 1/250 of the area of the originals and weigh only 1/100 of their weight. After transportation by air to their destination, the micro-photographs are enlarged on photographic paper to 5 inch \times 4 inch, and the enlargements, so made, are dispatched by mail to the addressees."³¹ The advantages are enormous. The forms provide space for 700 words. 150,000 ordinary letters would require 37 mailbags; the photographic equivalent can be transported in one single bag, and lost mail can be replaced.

It was in the miniature camera that science first discerned the possibility of commanding the world's records in given subjects. The only methods developed to date which are economically useful for reproduction of single copies, or of less than 10 copies, of the materials of research are microfilms and photoprinting. "A microfilm is a photographic reproduction on film, usually reduced by from four to twelve diameters, but capable of enlargement to the original size or larger".³² "The fotoprint process is fundamentally nothing but the application of standard microfilm technique to rolls of paper instead of to rolls of films".³³ British interest in microfilms did not reach a

practical stage until war circumstances forced librarians to rely on microfilm copies in place of material which was otherwise inaccessible, i.e. to face and solve problems created by the discontinuance of pre-war sources. True to its aim to promote the dissemination of knowledge in all its aspects Aslib operated a Microfilm Service for current, continental science journals.³⁴ The A.M.S. has now been transferred to the rehabilitation of medical libraries in the liberated countries of Europe. From 1 January 1946 it became an integral part of the Central Library Bureau of the Royal Society of Medicine. It is well known that the contribution of photography to the war effort has been magnificent, but did the war give an exaggerated importance to microfilm? You will at least note that the Inter-Allied Book Centre is replenishing the bombed libraries, not by microfilm but by the printed volume.

It is in the United States especially that microphotography is in extensive use. Its timely use there secured copies of unique MSS. hitherto preserved in the libraries of Europe, and provided a "substitute" for the rapidly disappearing printed volume. Three of the chief microfilming organizations are situated in Washington. They are: The Photo-duplication Service of the Library of Congress; The Bibliofilm Service of the U.S. Department of Agriculture; and The Medicofilm Service of the Army Medical Library, which, for postage only, supplies microfilm copies of original papers cited in current issues of the *Quart. cum. Index med.* The Library of Congress Service, too, is widely used, particularly for original size "photostat" copies.* The U.S.D.A. has come to favour "fotoprints" in place of microfilms. I shall refer to its service again in a minute. In South Africa we await the fate of The Microfile and Barcograph Unit (S.A.C.S.) at G.H.Q. Pretoria, where 4,000,000 microfilms were taken by this U.D.F. unit in less than three years.

Disadvantages of Microfilm

"Spools of film are the legacy of the cinematograph, and to use them for storing literature is to go back to library methods which were discarded nearly 2,000 years ago. The papyrus roll gave place to the codex or paged book, and for similar reasons spools of microphotographs must be replaced by a flat micro-record."³⁵ These so-called "libraries of the future" do not attract me. They have their obvious limitations, too. "Microfilm does not offer the manifest advantage of being able to read a paper directly wherever one

* We use the National Central Library, London, in a similar way.

happens to be ; or of being able to have open for comparison several papers at once."²² "... Special attendants are necessary to load the projector, to show the uninitiated reader how to use the machine, and to remove the film after use has been completed."³⁷ Further, the question of eye strain is involved, though it is true that "Harvard college boys could read microfilm for as much as six hours at a stretch without any visible fatigue, so long as they received seventy-five cents an hour for their work."²⁰ And may not the acceptance of microfilm as legal evidence be dangerously interpreted as authority, or pretext under pressure of space, to destroy the originals?¹⁰ (Rider himself says (p.209) that libraries, having micro-cards of the books, could dispose of their original copies—to my Stack in the Veld,¹² I hope). Listen, please, to Jackson writing on "Some Limitations of Microfilm": "To all the classic 'Enemies of Books' has now been added this devouring monster of the microfilm pressure table. By cajolery, threats, exhortation, and constant vigilance the librarians of to-day must guard their treasures against this danger which lurks in the distant corner where, amid his livid light and chemical smells, the photographer has his lair. . . [His and] my abhorrence of films[are]now slightly mingled with gratitude for the assistance they have sometimes been. [I share his hope, however,] that our relations with films will not follow the cycle which Pope outlined towards Vice : abhor, endure, embrace."¹⁹

The British Standards Institution⁸ and the U.S. Bureau of Standards¹⁸ have issued specifications for the care of microfilms. Purity of air, a temperature around 50°F., and atmospheric humidity of about 50 per cent, are recommended. The films may be filed in flat strips, or loosely coiled to rest in pigeon-holed, dust-proof card-trays or cabinets. The U.S. Bureau of Standards predicts as long a life for a cellulose acetate film as for any good, pure rag-content paper, *provided* that films are always handled by the edges, as films can be ruined by oils and acids of the hands; and that moist thumbs do not soften the emulsion coat and leave prints which enlarge on the viewing screen. Care should also be taken to avoid scratching, and every five years films should be cleaned to remove dust. The nigger in the woodpile then is not the acetate base, but humidity in a coat of gelatine. Is history about to repeat itself? In the year 1221 the Emperor Frederick II (1194-1250), king of Naples and Sicily—presumably anticipating the use of "M.W.P."—issued a not entirely successful edict against the use of paper for public documents on the grounds of perishability.

Photoprints and Micro-cards

The heads of several larger United States library copying laboratories have recommended that photoprints be substituted for microfilm, for articles up to 10 pages and even more in length. There appears to be little question that many scholars prefer to use photoprints, and can use them more readily than microfilm. Shaw³⁰ contends that continuous strip photoprints cost less to produce for the average article than does microfilm. The type could be reduced by 20 per cent without causing undue reading difficulty for persons with normal vision, i.e. no reading machine is required; or, at the worst, just binocular glasses called "Magni-Focusers", put on as ordinary glasses.

In 1944 the publication of Rider's book about micro-cards evoked from the American reviewers all the superlatives except atomic. Enthusiasm has since subsided. He himself claims originality only for the dual purpose idea of combining in one single entity, on a standard-size library catalogue card, both the entry and the text; the former as usual on the front, and the micro-text of that item on the back.

However, not all our material lends itself readily to reproduction on micro-cards. For instance, it is still generally agreed that newspapers would be better on microfilm; that public documents would remain inviolate because they are issued free; and that royalties would exclude all copyrighted books—altogether a considerable portion of our stock.

Copyright and Photographic Reproduction

As far back as 1935 an agreement on "fair use" of copyright material was signed between the National Association of Book Publishers (now the Book Publishers Bureau) and the [U.S.] Joint Committee on Materials for Research. This agreement recognizes the right of a library to make and deliver a single photographic reproduction in which copyright exists, to a scholar, who represents in writing that he desires such reproduction in lieu of loan or in place of manual transcription, and solely for the purpose of research. The agreement, generally known in the U.S. as the "Gentlemen's Agreement", requires (1) that the library give to the person receiving the reproduction due notice in writing that he is not exempt from liability to the copyright owner for any infringement; (2) that the library furnish such reproduction without profit to itself. In case of doubt it advises us to secure permission from the copyright owner; always to ask our-

selves: Are we preventing the sale in quantities; and never to reproduce a thing so that the reader will not have to buy the whole book.⁵ In England, "anticipating a demand for microfilmed editions of out-of-print books, the Society of Authors and the Publishers' Association in consultation with Aslib, have issued a 'Joint memorandum on microfilms and copyright'. . ."⁷

Advantages of Microphotography

Microphotography is much used as an extension of inter-library loan systems. It obviates the undesirable, repeated mailings of irreplaceable volumes of periodicals, which are too frequently exposed to excessive wear and tear, and even to loss in transit. It offers rapidity of reproduction, saves space and money, and possesses the further advantage of portability. It makes library holdings reciprocally available, so that much research material previously found only in the big libraries now becomes available also in the small.

Photo-Litho-Offset

Nevertheless, I am inclined to agree with Metcalf "that while the microcard idea is a grand one, while Rider's book is of real importance, and while microcards will come to pass, the use of them will not be tremendous, and in the years immediately ahead, the greatest development in microprinting is more likely to be with photo-offset reproductions reduced by two to five diameters, which will be sold at a fraction of the cost of the original volume, and which can be read without the aid of an expensive, not easily portable machine. . . . Such reduction brings about great saving in cost, paper, space, and may present less difficulty in connection with use."²⁰ "The possibilities of medium-low reductions on paper in multiple editions and of light sensitive diazo materials for facsimile reproduction—both at extremely low prices—may cause librarians to pause in their haste to equip microphotographic laboratories of the present type."²⁷

Examples of "facsimile" reproductions by "offset" are familiar to us in "Cutter", and the "Joint Code", which were done by the "Replika" process. The method is also much used to help solve the post-war book shortage and the demand for reprints, e.g. of Trevelyan's *English social history*, and Walker's *History of South Africa*. Edwards Brothers of Ann Arbor have at least five major undertakings along these lines: (1) *Catalog of books represented by L.C. printed cards*, in 167 volumes, each of 640 pages, measuring 11 by 8 inches and reproducing 36 cards at an "opening". The text is reduced to the size of 6-pt. type. It is

a photographic reproduction of a series of nearly 2,000,000 cards, issued between 1898 and 31 July 1942, as they stand in a complete depository card catalogue. They represent 4½ million volumes; (2) 500 foreign, scientific titles, including 146 published in Germany since 1941, e.g. Beilstein, Poggendorff, etc., which they reproduced as licensed publishers to the U.S. Office of Alien Property Custodian.³⁵ Some titles have been reduced 2 to 8 per cent in page size in order to keep the cost down; (3) Facsimile reprints of 137 foreign scientific and technical periodicals published during the war years; (4) the British Museum *Catalogue of printed books, 1881-1900*, in about 70 volumes, averaging 800 pages, each measuring 9¼ by 6¼ inches. Publication was due to start last month and to finish before Christmas. It is claimed that the reduction leaves a clear and legible page, easy to consult and entirely free from the occasional blurring seen in most photographic reproductions; and (5) a series of Scholars' Facsimiles and Reprints. We must remember, however, that the term "facsimile" has often been far too loosely used for 'copies'. Every facsimile is a copy, but not every copy is a facsimile. We cannot carry on certain studies with copies that are not 'exact'.³⁶ "No authoritative conclusions regarding a manuscript can be based on the examination of any known form of reproduction thereof; the original must always be consulted."¹⁷ In 1886 Dr. F. J. Furnivall, who supervised the issue of photographic facsimiles of Shakespeare quartos (1880-89) was calling for "subscribers willing to undertake the hanging or burning of a photolithographer or two—to encourage the others"! Another Shakespearean scholar, W. Aldis Wright, concluded that "all confidence in the facsimiles as trustworthy authorities disappears".²⁸ And we have yet to hear of a librarian obliging a colleague by exchanging his Gutenberg Bible for even the finest collotype facsimile.

Planning the Structure

in the changed conditions for the new techniques.

In view of probable advances in document photography no new "library" [!] should neglect to provide really adequate accommodation. On first looking into "Rider" I thought this might best be provided in three separate buildings: (1) *The Impressorium*, or Place of the Printed Books; (2) *Die Biblioteek*; and (3) containing (a) *Die Kartoteek*, or Card Depository, and (b) "*Die Kinograafteek*", or Film Repository. In (1) we should collect, store, and preserve for posterity the older printed volumes. This "Impressorium"

(still my "Stack in the Veld" ¹²) will be staffed by the older librarians for, as Dr. Coblans anticipates, ¹⁰ some of us will react allergically to the new ideas. (I, for one, am certain to come out in micro-spots, and shall seek rustication there). Indeed, this may become the Mecca of librarians, the realization of our dreams: to run a library and to render a service with little interruption from readers. To do this efficiently we shall, unfortunately, need the resources of a well-equipped photographic laboratory. In (2), *Die Biblioteek*, will be housed reference books and other printed works in constant demand, reduced to a standard size by "offset", together with the latest and best books, non-research in character, intended for the undergraduate. (3a), *Die Kartoteek*, will consist of cabinets of micro-cards representing the general research "library". They will be surrounded by benches carrying hundreds of reading machines, eventually increasing to a degree where the area per reader, plus machine, may

exceed that previously necessary to contain the original printed volumes. So we cannot yet claim that "What's lost upon the roundabouts we pulls up on the swings!"

Perhaps the future patron will acquire his own projector, and, having put a penny in a slot-machine, take home a duplicate of the "master" micro-card, as an addition to his personal "library". (3b); "*Die Kinograafteek*", may aptly be termed "a lodging wherein to tarry, but not to dwell". "The stock" will consist entirely of 70 mm. microfilms of the items represented above, including all unpublished material. Can you picture the staff there, seeking, and perhaps finding a misplaced film? Surely these future colleagues will resemble sweet-voiced troglodytes, fitted with miners' lamps where Cyclops had their eyes! But I hear someone quoting that printer-novelist, Samuel Richardson: "Not another word of your Documentations. . . . I am not in a humour to bear them!"

REFERENCES

- APPLETON, Wis. *Institute of paper chemistry*. Guide to the literature of the pulp & paper industry. 1936. p.1-2.
- ASLIB. Rapid contents list service for group(s) A-Physical science; B-Biological science; C-Medicine & Veterinary science; D-Engineering & Industry.
- BENDIKSON, L. When filing cards take the place of books. (*Libr. J.* 58 (20) 911-13, 15 Nov. 1933).
- BERNAL, J. D. Information service as an essential in the progress of science. (*Aslib Conf. Proc.* 20: 20-24, 1945; see also his book: *Social function of science*. Routledge, 1939. *passim* & App. 8).
- BINKLEY, R. C. Manual on methods of reproducing research materials. Ann Arbor, Edwards Bros., 1936. p. 135-39; Microcopying & copyright. See also: Cibella, below.
- BONSER, W. The ideal form in which a journal should be produced. (*Aslib Conf. Proc.* 6: 63-70, 1929).
- (*The Bookseller* 27 Jul. 1944).
- BRITISH Standard recommendations for the storage of micro-film. (*British Standard* 1153: 1944).
- CLARK, R. E. D. Early microphotography & the Paris post of 1870. (*Discovery* n.s. 1 (9) 461-64, Dec. 1938).
- COBLANS, H. The organisation of the literature of science. (A paper read before the Cape chem. & technol. Soc. 7 Sep. 1945. mimeographed, p. 4. " . . . The book material could then be destroyed . . . "). See also p. 47 of this issue.
- CUSHING, H. W. The doctor & his books. (Repr. in: *Amer. J. Surg.* n.s. 4 (1) 100-10, Jan. 1928).
- FREER, P. Libraries & science. (*S. Afr. J. Sci.* 40: 81-97, Nov. 1943).
- GOLDSCHMIDT, R. & OULET, P. Sur une forme nouvelle du livre: le livre microphotographique. (*Bull. Inst. int. Bibliogr.* 12 (1/3) 61-69, 1907).
- (ibid. 1911. p. 215).
- GREENWOOD, H. W. Document photography. London, Focal press, (1943).
- HAMOR, W. A. & BASS, L. W. Bibliochresis: the pilot of research. (*Science* 71 (1841) 375-78, 11 Apr. 1930).
- HASELDEN, R. B. Scientific aids for the study of manuscripts. 1935. (*Supp. to the Bibliogr. Soc. Trans.* No. 10). p. 70.
- HILL, J. R. & WEBER, C. G. Evaluation of motion picture film for permanent records. (*Misc. Publ. U.S. Bur. Stand.* M 158, 1937. p. 1).
— Care of filmstrips & motion-picture films in libraries. (ibid. *Research Paper* RP 942, 1936; also in *Bur. Stand. J. Res.*, Wash. 17: 760 Nov. 1936).
- JACKSON, W. A. Some limitations of microfilm. (*Pap. Bibliogr. Soc. Amer.* 35 (4) 281-88, 1941).
- METCALF, K. D. Implications of microfilm & micro-print for libraries. (*Libr. J.* 70 (15) 718-23, 1 Sep. 1945).
- (*Nature* 156 (3949) 27, 7 Jul. 1945).
- PIRIE, N. W. Draft plan for the publication of scientific papers. (*J. Document.* 1 (1) 26-30, Jun. 1945).
- POLLARD, A. F. C. Miniature & microscopic documents. (*Proc. Brit. Soc. int. Bibliogr.* 5 (3) 43-54, 28 Sep. 1943).
- REID, E. Reform of the system of scientific publications. (*Aslib Conf. Proc.* 20: 64, 1945).
- RIDER, F. The scholar & the future of the research library. N. Y., Hadham press, 1944.
- SAYCE, L. A. Introduction to microphotography. (*Libr. Ass. Rec.* 40 (4. ser. 5) 16-18, Jan. 1938).
- Review of Rider's book (25). (*J. Document.* 1 (1) 61 Jun. 1945).
- SHAKESPEARE ASSOCIATION. Prospectus of Shakespeare Quartos in collotype facsimile, to be issued (1938-39).

29. SHAW, Bernard. The author as manual laborer. (*The Author* 54 (4) 45-47, Summer 1944).
30. SHAW, R. R. Should scientists use microfilm? (*Libr. Quart.* 14 (3) 229-33 Jul. 1944. See also — Continuous fotoprinting at the U.S.D.A. Library. (*Libr. J.* 70 (15) 738-41, 1 Sep. 1945).
31. SMITH, K. S. The 'Airgraph' service. (*Proc. Brit. Soc. int. Bibliogr.* 4 (2) 31-32, 23 Apr. 1942).
32. STEVENS, H. Photo-bibliography, etc. London, 1878.
33. TENNANT, J. Readex microprints. (*J. document. Reprod.* 3 (1) 66-70, Mar. 1940. See also *S. Afr. Libr.* 8 (3) 124-26 Jan. 1941).
34. TROY, Z. Streamlining production & distribution of current periodical articles. (*Spec. Libr.* 34 (6) 287-92, Jul./Aug. 1943; noticed in *Nature* 153 (3874) 134, 29 Jan. 1944).
35. U.S. Office of alien property custodian. Book republication program. List III (Cumulative). Dec. 1944. Includes a subject index & the names & addresses of 13 other licensed publishers.
36. WEITENKAMPF, F. What is a facsimile? (*Pap. Bibliogr. Soc. Amer.* 37 (2) 114-30, 1943).
37. WILSON, L. R. & TAUBER, M. F. The university library. Chicago, Univ. press 1945. p. 182 & 429.

ADDITIONAL LITERATURE

- AMERICAN library association. Microphotography for libraries; papers presented at the 1936, 1937 Conferences of the A.L.A. Chicago, A.L.A., 1936-37.
- BROADMAN, Joseph. Microfilms, their use and abuse. New York, The Author, 200 W. 70th St., 1945.
- DE SOLA, Ralph. Microfilming. New York, Essential books, 1944.
- EDWARDS Brothers, inc. Manual of lithoprinting & planographing, etc.; 2. rev. ed. Ann Arbor, Michigan, 1937.
- FUSSLER, H. H. Photographic reproduction for libraries: a study of administrative problems. Chicago, Univ. press (1942).
- HAUGHTON, S. H. Preservation of records by microphotography in the U.S.A. (*J. Document.* 1 (3) 156-61 Dec. 1945).
- INTERNATIONAL federation for documentation. *Conf. Trans.* 14 Oxford 1938. 2v. *passim*. — *Conf. Rapports.* 15 Zurich 1939. *passim*.
- JOHNSON, B. K. Apparatus for use with micro-filming processes. (*Proc. Brit. Soc. int. Bibliogr.* 4 (2) 25-30, 23 Apr. 1942).
- Journal of documentary reproduction. Chicago, A.L.A. 1, 1938-Quarterly. *Suspended during the war*.
- Journal of documentation. London, Aslib. 1, 1945-Quarterly.
- LANCASTER-JONES, E. Microfilms in libraries. (*Aslib Conf. Proc.* 17 : 34-37; Discussion : 64-67, 1942).
- Operation of a microfilm service. (*Proc. Brit. Soc. int. Bibliogr.* 5 (1) 1-6, 25 Feb. 1943).
- LIBRARY literature . . . an author and subject index to current books, pamphlets and periodical literature relating to the library profession; ed. by Marian Shaw. New York, Wilson, 1934-43. 4v. [V. 1], 1921-32, 1934, publ. by Amer. Libr. Assoc. *Suspended during the war*.
- MOHALY, Mrs. L. Developments & extensions in

the uses of microfilm. (*Aslib Conf. Proc.* 19 : 61-64, 1944).

- A few remarks on documentary reproduction in general & microfilm in particular. (*J. Document.* 1 (1) 3-40, Jun. 1945).
- PAGE, B. S. & others. Microphotography: standards in 'format', storage & cataloguing. (*Libr. Ass. Rec.* 40 (4. ser. 5) 212-16, 1938. See also p. 97).
- PARLEY, N. & HUMPHREYS, E. Photographic methods of reproduction as an alternative to printing scientific papers. (*Proc. Brit. Soc. int. Bibliogr.* 3 (1) 6-13, 19 Feb. 1941).
- SAYCE, L. A. Microphotography in 1939. (*Aslib Conf. Proc.* 16 : 77-83, 1939).
- SMITH, A. H. Photography of manuscripts. (*Lond. Mediaeval Stud.* 1 (2) 179-207, 1938).
- WILSON, W. J. Manuscripts in microfilm. (*Libr. Q.* 13 (3) 212-26, Jul. 1943).

MICROFILM SOURCES

- ASLIB microfilm service. [Cumulative list] [London, 1946]. Contains some 14,000 issues of several hundred scientific & technical periodicals published during the war years.
- CARRUTHERS, R. H. Directory of microcopying services & available positive films. (*In*: Raney, M. L., ed. Microphotography for libraries, 1937. Chicago, A. L. A., 1937. p. 45-63).
- CIBELLA, R. C. Directory of microfilm sources. N.Y., Spec. libr. ass. (1941).
- MICROFILM abstracts: a collection of doctoral dissertations which are available in complete form on microfilm. Ann Arbor, Univ. microfilms, 1938+.
- MODERN language association of America. *Committee on photographic reproductions*. Reproductions of MSS. & rare printed books. [Short title list of rotographs or microfilms . . . on deposit in the Library of Congress; comp. by R. H. Williams]. 1942. 34 p.
- PASTEUR Institute. Service des microfilms. Paris, L'Institut, 1945. 33p. List of microfilms available.
- PHILADELPHIA bibliographical center & Union library catalogue. *Committee on microphotography*. . . . Union list of microfilms; a basic list of holdings in the United States & Canada. Philadelphia, Phila. Bibliogr. Center, 1942. xiii, 379 p. *Mimeographed*.
- Supplements [no.] 1, 1942+. *ibid.* 1943+.
- Because the main work is not available in this library, we list here separately some of the material which is included in the *Union List*, e.g. the Mod. Lang. Ass., Schwegmann, Southwestern, L.C., & Univ. Microfilms titles.
- SCHWEGMANN, G. A. Preliminary checklist of newspapers on microfilm. (*J. document. Reprod.* 4 : 122-34, 1941).
- SOUTHWESTERN microfilm, inc. List of microfilms. Dallas, Tex., 1941.
- U.S. Library of Congress. *Photographic section*. Index of microfilms. Series A. Lots 1-1737. Washington, L.C. 1945. 26p. *mimeographed*.
- UNIVERSITY microfilms, inc. List of current periodicals available on microfilm. Ann Arbor, U.M.I. 1942.

THE ORGANIZATION OF THE LITERATURE OF SCIENCE*

H. COBLANS

THE scientist in this century has become more and more conscious, as an individual, that our industrial civilization is based on the whole complex fabric of science. . . . Scientific knowledge, its extension, its constructive application, have become the key to the future of mankind . . .

The mass of material in the form of journals, and other scientific and technological publications is increasing at an alarming rate. . . . The field of chemistry, being perhaps better organized in its periodical publications than any other science, provides a significant guide. According to Crane¹, the editor of *Chemical abstracts*, which covers approximately 4,000 journals, chemical research activity has been quadrupled throughout the world in the 30 years from 1909. . . .

It has been computed² that the annual increase in chemical literature in the immediate pre-war years was at least 50,000 pages. Chemistry is a meeting ground for many of the natural sciences and has wide ramifications in technology. Thus a count of papers published provides a good approximation to a yardstick for measuring the volume of scientific research as a whole. At all events it provides a basis for comparison. Further there is every indication that this flood will swell as publication gets into its stride again. Crane in 1944 made the interesting prediction that after the War more chemical research will be reported in Russian than in any other language except English.

Far more serious than the mere bulk of the material is the increasing difficulty of indexing, abstracting, separating the important from the trivial. It has been aptly said that "we must turn the flood of books into a productive irrigation". This is no new problem; it is just that it is becoming more acute. Wilhelm Ostwald way back in 1912 was campaigning for an International Institute of Chemistry to do just this for chemical literature. Ostwald's³ argument was "that for lack of effective knowledge of the overwhelming output in modern science, much work is quite needlessly done several times over".

Professor A. F. C. Pollard took this as the theme for his presidential address⁴ to the British

Society for International Bibliography in 1942: "The disordered state of bibliography and indications of its effect upon scientific and technical progress". He discusses some of the classical examples of the great waste, the frustration due to the ignorance of what has already been done, for example, the Mendelian laws of inheritance, rediscovered after 35 years, although his papers were noted in the *Catalogue of scientific papers* published by the Royal Society in 1879—unfortunately only an author catalogue. . . .

Unfortunately a large proportion of the total number of references on a given subject is regularly missed even by the best abstracting journals, in spite of the fact that, for example, the American Chemical Society was spending about a quarter of a million dollars on its abstracting services in 1938. This has been explained by a law of scattering deduced by Dr. Bradford⁵, who was for many years the librarian of the Science Museum Library in London. Thus Bradford pointed out in 1934 that 300 abstracting and indexing journals record about three quarter of a million papers, which is roughly the same as the total number of worth-while papers published. Owing to duplication only a third of the real total are dealt with, the remaining two-thirds are missed. This is not surprising considering that there are about 15,000 current scientific and technical journals of value. Each abstracting bureau, being a separate unit, usually run by voluntary societies, can only cover a few thousand journals at best.

Mr. Freer has recently discussed the growth of scientific literature and the coverage of abstracts in more detail⁶. Throughout South Africa only about 6,000 periodicals are available, mainly in a few centres.

The absence of adequate organization of scientific literature is clearly menacing the progress of science to-day. But far-sighted universalists were already alarmed at the end of the nineteenth century. Two Belgians, Henri La Fontaine and Paul Otlet,† organized an international congress which led in 1895 to the foundation in Brussels of an International Institute of Bibliography, partly financed by the Belgian Government. Its aim was

† These two great pioneers died during the German occupation in 1943 and 1944 respectively¹⁴.

* Read before the Cape Chemical and Technological Society on Friday, 7 September 1945.

to standardize methods of documentation. The concept of documentation is a very wide one, including the collection, preservation, and distribution of knowledge in all forms in which it is recorded—the written and printed word, photo-reproduction, the sound film, etc. This was to be achieved by compiling a classified card index of all literature and science. By 1914 they had already reached the vast total of 11 million cards. But World War I and the inherent difficulties of such a centralized undertaking, working on its own, greatly hampered the completion of the project. In 1937 the name was altered to International Federation for Documentation (I.F.D.) and the organization was changed to the co-ordination of a network of documentation centres through national federations.

One of the important achievements of the old Brussels Institute was the extension of the Dewey Decimal Classification into a tool uniquely suitable for the minute subject classification of knowledge, particularly in science and technology—the so-called Universal Decimal Classification (U.D.C.). An international classification based on a simple notation is an essential requisite, as an alphabetic subject index⁷ is hopelessly inadequate for such an undertaking. The English edition of the U.D.C.⁸ is being published by the British Standards Institution and in that way will be continually revised and amended by panels of subject experts.

Two documentation centres of more limited scope but of special interest to the chemist are the Science Museum Library and the Maison de la Chimie in Paris. . . . The Science Museum Library maintains three services started in 1931 :

1. From the most important national book lists the references to all books published on science and technology are cut up, mounted on standard cards (5 by 3 in.), and filed in alphabetical author order.

2. A list of all new publications received in the Library, the weekly accessions list⁹, is issued with full particulars for each entry, including the U.D.C. classification number. Each list has on an average about 200 entries and is intended for building up co-operative classified catalogues. All libraries and individuals receiving the list can cut up the sheets and mount the references on to standard cards. In that way a minutely classified subject index to current scientific literature can be built up.

3. In addition similar cards are made for references to books and articles, extracted from all published documentation services, that are classified by the U.D.C. Before the War these were

being incorporated into a vast index at the rate of about 150,000 entries per annum. It is mainly from this index that the Science Museum Library is able to compile its bibliographies on specific subjects. This service was provided free within the British Empire and at a small nominal charge to inquirers from other countries.

An institution attempting this same level of international documentation, but confining itself to one science, is the Maison de la Chimie, opened in Paris in October 1934. It was created as a result of international subscription resulting from the celebrations of the centenary of Berthelot's birth. By combining the library collections of the two large French chemical societies a valuable basic nucleus was established. The saving by the elimination of duplication made it possible to increase the number of current periodicals to 600, from which a weekly abstract service is sent to members¹⁰. . . .

In the Library of the Chemical Society in London, as a result of a major amalgamation in 1919, the size of the collection and its use have been more than doubled in 20 years. Similarly the Bureau of Chemical Abstracts in London, by incorporating Physiological Abstracts from 1938 and including Anatomy for the Anatomical Society in 1940, has eliminated a great deal of wasteful overlapping and strengthened its own position.

However, access to a published index or even an abstract is only a guide and often no substitute for the original paper that a research worker living in, say, Bulawayo might need. Photographic reproduction has in this sense revolutionized the whole problem of documentation. . . .

The photostat, although of great value, is inevitably expensive by its very nature—a given area of cheap paper replaced by an equal area of expensive paper. It is rather in micro-photography that a new answer has been found to an old problem. Very significantly this was already realized by Otlet in 1907*. . . . But only in the last decade or two, since American libraries have taken up micro-photography seriously, have the potentialities become clear.

Since 1936 the American Library Association has published an annual handbook called *Micro-photography for libraries*†, and since 1938 a quarterly *Journal of documentary reproduction*‡. Already ten years ago the Bibliofilm Service of the Library of the U.S. Department of Agriculture was making micro-copies of any article in a scientific periodical at one cent a page. An interesting

* See p. 36 and 42 of this issue.

† Suspended after the 1937 volume.

‡ Suspended after the 1942 volume.

description with important implications was recently given by Colonel H. W. Jones¹¹, the Director of the Army Medical Library in Washington. His photoduplication service operates free to any serious scientific worker requiring a microfilm of a periodical article. . . .

In Britain development has been much slower. The War, however, brought such dislocation of scientific literature, both Allied and enemy, that the use of microfilm has become commoner. The Association of Special Libraries and Information Bureaux (ASLIB), an important clearing-house for sources of information, has established an Aslib Microfilm Service.

It is immediately clear that the effect of micro-reproduction on the availability of scientific literature and the implications for libraries are far-reaching. A library can make its holdings in any particular subject almost complete, as it is theoretically possible to have microfilms made of literature anywhere in the world, whether the original is on sale or not. The individual research worker, instead of receiving a large volume of a periodical by post on inter-library loan, will buy a little strip of microfilm. It has been predicted that micro-reading machines will become as common an adjunct to the laboratory or the study as the typewriter. . . .

A revolutionary proposal has been made by an American librarian named Fremont Rider in his book, *The scholar and the future of the research library* (1944). Unfortunately I have not been able to locate a copy and so I can only give the details from reviews in *Nature*¹² and other journals. Briefly the solution is that all books, periodicals, etc., should be micro-photographed on to the backs of the ordinary catalogue cards with reduction ratios of the order of 80 to 90 diameters. The face of the card would have the usual descriptive entry with an abstract in macro-print. The book material could then be destroyed. The catalogue would thus become the book stock. To read a particular book all the reader would do is to insert the card into a micro-print reader. He could then study any part of it with less trouble than it takes to turn the pages of a book. Or a copy of it could be made for him quickly and cheaply. Mr. Rider in fact suggests a penny-in-the-slot machine for this purpose.

Obviously there are still many theoretical and technical difficulties to be overcome. However, reductions of 60 diameters, which would bring 500 pages of a book on to a 5 by 3 in. card, are already photographically possible. Half a drawer full of cards could thus contain the whole of Beilstein in miniature. And what is more we could all afford to have the few score cards ourselves. Photo-

graphic processes giving reductions of 90 diameters, which would bring a thousand pages on to one card, may soon be on the market. The new Ozaphone and Ozalid processes have replaced the silver-halide emulsion by thin sheets of cellophane, impregnated with a diazo compound, and the positive image is developed by the formation of a dye. As such a film is almost without "grain" much greater reduction ratios, without loss of definition, become possible.

It would not be surprising if many librarians reacted allergically to this suggestion of eliminating books from their libraries. It also involves a whole range of printer, author, and publisher problems, as reference books and specialist journals would probably not be printed any longer. The whole scheme would only work if there were considerable centralization with a non-commercial approach. The saving in money is an important factor. Rider estimates that the costs of purchase, cataloguing, binding, and storage would be reduced to one-tenth of present levels. Microfilm was laughed at in 1907 as a library tool. In another 10 or 20 years the research library may have adjusted itself to such a bookless desert, as it may be one of the best solutions.

I have surveyed very briefly some of the problems of organizing scientific literature and underlined some of the modern trends. To what extent can we apply these newer techniques to bring some order and efficiency into the welter of our South African scientific literature? This question resolves itself into two parts: (a) the material coming from outside the Union, (b) what we produce ourselves. I feel rather strongly about the latter, as I have recently completed a bibliography of chemical research in the Union of South Africa. I was appalled by the absence of most of the standard tools. Short of paging through all the numbers of all the possible South African journals it is very difficult to find out what work has been published, due to the absence of indexes. Thus there are no subject indexes for the *Transactions* of the Royal Society of South Africa, *Publications* of the South African Institute for Medical Research, or *Scientific reports* and *Bulletins* of the Department of Agriculture, to mention but a few. One of the few cumulative indexes available is that for the Onderstepoort *Reports* for the period 1903-1932.* Also there is a complete bibliography for South African geology. It is true that there is an *Index to South African periodicals*, which was started by the South African Library Association in 1940.

* Also South African forestry association. *Journal*. Index to nos. 1-10, 1938-43.—Ed.

The penalties are, of course, that libraries cannot make material available, because they do not know what they have hidden away in their volumes. Soule, in his very useful *Library guide for the chemist*, describes the case of a large American concern which hired an expert, and financed his laboratory work for two years, just to obtain data already in its own library. . . .

As I have said the necessary bibliographical tools in connexion with South African research hardly exist. A list of some of the requirements would include :

- (a) A retrospective subject and author index for South African periodicals to cover the whole field of science and technology, including Government reports. These printed references could be cut up, mounted on cards and provide a classified subject index, which could be maintained by current additions. From such a cumulative index individual subject bibliographies covering, say, nutrition, soil erosion, mining technology, phytochemistry, etc., would be published from time to time. In this connexion it would be a great help if all publishers and learned institutions issued index slips with each number of a periodical as the Royal Society of South Africa does. Also societies should insist that authors include abstracts with their papers.
- (b) The regular publication of South African Science Abstracts, which would attempt to cover all scientific papers published in South Africa or abroad on work done in

South Africa or based on South African material. (Since 1935 this has been done in India and more recently in Australia).

- (c) A register or directory of all South African learned and technical societies, including a brief history, their scope and publications and possibly a dictionary of South African scientists and technologists.

This would be no mean undertaking and would require real co-operation among the societies involved as well as considerable government assistance. Superficially it would seem that there is already a fair centralization at Kelvin House in Johannesburg. Actually the only co-ordination there is the physical juxtaposition of the offices of ten societies and communal club facilities for members on the Rand. The conditions clearly exist in Johannesburg for such a central scheme, particularly as the Johannesburg Public Library is the best technical library in South Africa. It could certainly help in the creation of a South African counterpart to the Science Museum Library, from the point of view of its documentation services.

With regard to scientific publications coming into the Union some of the obvious proposals that have been made are : central cumulative indexes (perhaps on a co-operative basis) ; the elimination of duplication combined with an attempt to fill the large gaps of thousands of important periodicals not available anywhere in the country. This, with a liberal use of micro-copying aids, would go a long way to reducing the chaos in our scientific literature.

REFERENCES

1. CRANE, E. J. Growth of chemical literature. *Chem. & engng. News* 22 : 1478-81, 1944.
2. SOULE, B. A. Finding the literature. *J.chem.Educ.* 21 : 333, 1944.
3. MIDDLETON, W. L. Maison de la Chimie. *Chem. & Industr.* 52 : 118-19, 1933.
4. POLLARD, A. F. C. *Proc.Brit.Soc.int.Bibliogr.* 4 : 41-52, 1942-43.
5. BRADFORD, S. C. (a) Scattering of papers on specific subjects in scientific periodicals. *Proc. Brit.Soc.int.Bibliogr.* 5 : 74-75, 1943-44.
(b) *Publ.Brit.Soc.int.Bibliogr.* no. 1, 1934.
6. FREER, P. Libraries and science. *S.Afr.J.Sci.* 40 : 81-97, 1943.
7. POLLARD, A. F. C. & BRADFORD, S. C. Inadequacy of the alphabetical subject index. *Aslib Conf. Proc.* 7 : 39-52, 1930.
8. INTERNATIONAL federation for documentation. Universal decimal classification, English edition. London, British standards institution, 1943-.
9. SCIENCE museum library, London. *Weekly list of accessions to the library.*
10. SPRATT, H. P. Chemical research and documentation in Paris. *Chem. & Industr.* 54 : 214-16, 1935.
11. JONES, H. W. Photoduplication service of the Army medical library. *J.chem.Educ.* 21 : 342-43, 1944.
12. BESTERMAN, T. *J.Document.* 1 (1) 57-62, 1945.
13. Review by Miss Ditmas (of Aslib). *Nature, Lond.* 154 : 655, 1944.
14. BRADFORD, S. C. *Proc.Brit.Soc.int.Bibliogr.* 7 : 16, 1945.

SOME BASIC SOURCES

- BINKLEY, R. C. Manual on methods of reproducing research materials. Ann Arbor, Edwards, 1936.
- HOLMSTROM, J. E. Records and research in engineering and industrial science. London, Chapman, 1940.
- SPRATT, H. P. Libraries for scientific research. London, Grafton, 1936.
- SOULE, B. A. Library guide for the chemist. New York, McGraw-Hill, 1938.

THE DEVELOPMENT OF MICROFILM SERVICES IN SOUTH AFRICA

D. C. ALLETON

Microfile (Pty.) Ltd.

EARLY in 1941, the Department of Defence became interested in the possibilities of microfilm both for transmission and for record and storage purposes, and Major (then Lieutenant) F. H. Chaplin was asked to organize a Unit to deal with it. This was an example, not as unusual as Defence tradition suggests, of the right man for the job. He had behind him many years of experience with every type of camera and film, and he brought to his new work an infectious enthusiasm and a deep technical knowledge.

Starting from scratch, the new Unit was built up gradually to become a valuable member of the South African Corps of Signals under Colonel Collins. Equipment was obtained from overseas and rushed to Pretoria, and at twenty-four hours' notice a set of offices at G.H.Q. was converted to dark-rooms and laboratories. Recruits for the Unit had to be chosen and trained, and here a very high standard was set. Not only was it necessary that they should be able to master the laboratory technique, but also it was essential that they should be able to keep secrets. A very large part of their work was highly secret, and most of it was confidential to some degree. It is true that girls working with the cameras and in the developing and printing rooms have little time to read the contents of the documents they handle. Nevertheless, opportunities were there, and it is a tribute to all concerned to say that at no time was there any abuse of the confidence imposed or any disclosure of the secrets which were placed before the operators. Indeed they spoke so little of their job that few but those who came into immediate contact with the Unit were aware of its existence. It was one of the least advertised sections of G.H.Q. but none the less important for that.

The portion of the Unit's work best known to the public—though few of us bothered to think how or where the work was done—was the "microgram" service. These Air Letters were introduced to this country by the British authorities, but their application soon became very general, and the Unit found themselves handling micrograms to and from sixteen different countries. The

huge volume of this work alone was sufficient to keep a large portion of the staff busy.

In addition to the microgram work, the Unit was required to photograph in microfilm many types of Defence and other Departmental records. Obviously details may not be given, but one fact of which the Unit was proud is that not one of the millions of documents involved went astray—a remarkable achievement in itself. The recording covered every branch of Defence activities—plans, maps, battle records, secret documents, vital figures, and many others. Once again tribute must be paid to the girls for regarding them all as "bits of paper".

Towards the end of the War, when thoughts of "Civvy Street" became possible once more, Colonel Collins and Major Chaplin began to discuss the commercial possibilities of their work. In the United States microfilm is an accepted part of library and office work, but before the war it was virtually unknown in South Africa. These two men realized what a great need existed for it in the State and State-aided Departments and in the banks and the large commercial houses of this country. Here they had a unique opportunity to find post-war employment for their staff and to bring to the Union a service which was long overdue.

There were several false starts, for the new undertaking had to be planned on a large scale. Eventually the initial difficulties were overcome and the firm Microfile (Proprietary) Limited was launched. This is staffed entirely, from Directors down, by ex-service personnel.

The Managing Director is Mr. (formerly Major) Chaplin, and once again he is building up an organization which will make its mark in business as surely as the old Unit did in Defence. Cameras and equipment of the most advanced types are already shipped, and the first camera-crew of the new firm is at work on an important assignment in the Cape.

A very large proportion of the personnel of the old Unit have joined the Company. The value of this cannot be overestimated, for the Company is assured, as nobody else can be, of being able to

start with operators who are fully trained, of proved trustworthiness, and who are, furthermore, South African ex-service men and women.

The Head Office of the firm is in Johannesburg, and temporary premises have been obtained in Greene Street. As soon as building difficulties permit, new laboratories will be built and these will incorporate air-conditioned storage vaults. The Company will operate immediately in Johannesburg, Cape Town, and Durban, and will provide mobile services to other centres as required, building laboratories where necessary. It intends to cover every phase of microfilm work, including the importation of printed film from other countries for distribution here. This is a very much wider programme than it may seem, for it involves the importation and servicing of all the accessories such as readers. In addition to

the 35 mm. cameras which will cover most of the work, 16 mm. cameras will be available to cover the special types of documents which justify the smaller film. At the other end of the scale, the Company have acquired and are operating already some of the most modern photographic instruments, which can reproduce plans and other large documents of all types.

Mr. Chaplin and his staff feel confident that they will be in a position to offer full services for every type of document photography, many of them quite new to South Africa; the initiative which they have shown so far seems to justify their confidence. They are determined to maintain an extremely high standard of technical quality, and to let nobody lead them in this new and enterprising South African industry.

PERSONALIA

BAKER—Mr. S. M. Baker, B.A. (Cantab.), has been appointed Assistant, Government Archives, Salisbury, S. Rhodesia.

BOTHA—Miss Erica Botha, B.A., F.S.A.L.A., formerly on the staff of the State Library, Pretoria, was married on 25 May 1946 to Mr. Louis Murray. She is now resident in Kroonstad.

CARNEGIE—Mrs. Andrew Carnegie, widow of the famous steel millionaire and philanthropist, died at her home in New York on 24 June 1946 at the age of 89.

EHLERS—Mnr. Dirk L. Ehlers, B.A., Hoër Sertifikaat in Biblioteekwese (U.K.), Assistent aan die Stellenbosche Universiteitsbiblioteek, is benoem as Bibliotekaris aan die Universiteitskollege van die O.V.S. vanaf 1 Augustus 1946.

ELLIOT—Miss Gertrude Elliot, Assistant-in-Charge, University of Cape Town Medical Library, was married to Mr. M. Glickman, of Cape Town, on 27 June 1946. She will continue with her library work.

HEWITT—Mrs. M. Hewitt, First-Grade Assistant, University of Cape Town Library, left librarianship for the book-trade in Vereeniging on 1 October.

LAST—Miss G. D. P. Last, of the Cape Town Univer-

sity Library School, has been appointed as Assistant in the Library of the *Cape argus*.

LEYDS—Miss G. J. Leyds, B.A., Higher Cert. Lib. (U.C.T.), Assistant at the University of the Witwatersrand Library, has been appointed Assistant at the Johannesburg Public Library from 1 October.

MEYNELL—Mr. Francis Meynell, typographer, poet, and founder, in 1923, of the famous Nonesuch Press—whose aims are "significance of subject, beauty of format and moderation of price", and which has done so much to raise the general standard of book production—has been given a knighthood for his work at the Board of Trade. He is now typographical adviser to H.M. Stationery Office.

(*British book news* 68 : 75 Mar. 1946)

SENDER—Miss F. Sender, B.A., A.S.A.L.A., Assistant at the University of the Witwatersrand Library, has been appointed Librarian at the Johannesburg Teachers' Training College.

TOUSSAINT—Mr. A. Toussaint, Librarian and Archivist in Mauritius, called at Cape Town in August on his way to the London School of Librarianship. He is the holder of a British Council Scholarship.

SOME ASPECTS OF COPYRIGHT

Mr. B. Northling Swemmer has sent us the following footnote to his article in *South African libraries* 10 (2) 25-30, Oct. 1942.

Copyright in letters

When A writes to B, the copyright belongs to A, the writer of the letter(s); B retains only the physical possession of the letter(s). Only those who have written permission to publish the letter(s) may do so legally, either gratis or for a fee. Publishers or private indivi-

duals cannot demand the letter(s) even after fifty years after the writer's death, if the letter(s) is (are) in private or public possession and publication is refused.

Signatures may be sold and published without infringing copyright.

Addendum to bibliography. The most valuable book concerning slander, defamation, and libel is :

ERNST, Morris L. and Lindey, Alexander. Hold your tongue. London, Methuen, 1936. 8s. 6d.

TRAINING LIBRARIANS IN CAPE TOWN

THE PERIOD 1939-1946

R. F. M. IMMELMAN

THE University of Cape Town facilities for training librarians have grown in scope and extent during the past seven years. In March 1940 I contributed a paper on the Cape Town scheme of library training to a symposium, held during the Third Triennial Conference of the South African Library Association at Cape Town, on "Training for librarianship".¹ The present seems a suitable time to review and evaluate the work of training during the period from 1939 to date.

In 1939 the University of Cape Town offered a course of training for librarians leading to a Certificate and *Diploma* in Librarianship, being the first South African university to offer such facilities. From 1939 to 1945 the Diploma course was offered in two sections, one section at the J. W. Jagger Library at Groote Schuur, the other section at the University Branch Library in the city. These sections were reversed every other year and in this way library assistants and others could take the whole librarianship course over a period of years by part-time study in the evenings. From 1946 the whole Diploma course is taken at Groote Schuur and, in addition, two subjects are being *duplicated* in the evenings in the city each year in rotation. By 1946 the University of Cape Town has so widened the scope of its training that two courses are being offered, the one leading to a Higher Certificate and Diploma in Librarianship, the other to a Certificate in Librarianship. From 1946 the Diploma course is commencing a month earlier, on 1 February, to enable the graduate student to complete his studies in one academic year. Then too the *Certificate* in Librarianship course has been instituted this year for the first time.

The teaching in 1939 was undertaken by three members of the University staff, assisted by the librarian of the South African Public Library, in 1946 by seven members and one ex-member of the library staff, assisted by the librarian and sub-librarian of the South African Public Library, i.e. ten in all. At the beginning of 1945 a full-time lecturer in librarianship was added to the library staff, Miss Elizabeth Taylor, B.A. HONS., F.S.A.L.A., formerly Children's Librarian and Supervisor of Extension Work, Johannesburg

Public Library. Special lectures or series of lectures are also given by three or four other Cape Town librarians from time to time, e.g. Miss W. Linderman, U.S. Information Library.

DIPLOMA IN LIBRARIANSHIP COURSE

The Higher Certificate and Diploma course consists of six subjects, namely:—

Principles of Librarianship
Library Administration, Organization, and Routine
Cataloguing
Classification
Book Selection and Reference Work
Bibliography.

This syllabus is characterized most markedly by the inclusion of the *Principles of Librarianship* course, a general orientation course which aims at familiarizing the student with current ideas and problems of librarianship, particularly with the role and functions of the library in a modern democratic society. It aims at introducing the student to the work of investigations into library problems, e.g. research studies in the field of reading and library surveys and the librarian's attitude in such matters as censorship and propaganda. Different types of libraries are studied on a comparative basis, e.g. regional library systems (with the Tennessee Valley Authority and Fraser Valley library schemes as typical examples); county and rural library services in various countries; school and children's libraries, as well as institutional and special libraries. The role of the state in relation to the provision of library services is emphasized, with special reference to government grants for library purposes, for national libraries, and for government departmental libraries. The modern conception of librarianship is considered in the light of changing social attitudes and social trends; the evolution of the library is traced historically and its main characteristics to-day are determined.

Principles of Librarianship ranges over the whole field of librarianship and seeks to give the student the opportunity to examine critically various trends of thought in the library field; to develop a professional attitude and to inculcate profes-

¹ Cf. S.A.L. 8 (4) 151-56, Apr. 1941.

sional ideals and ethics in the prospective librarian. The basis of this subject more than any other consists of a great deal of wide reading, under the guidance of the lecturer, who is consistently aiming at arousing the interest and enthusiasm of the students for their future profession.

Bibliography includes the history of books, printing, and bookbinding, as well as a study of the mechanical processes of printing, photolithography, and binding. In addition, a study is made of subject and general bibliographies. Bibliographical style and method are investigated with a view to the compilation of bibliographies by the students themselves. This will later be dealt with in greater detail.

In *Library Administration*, besides studying in detail the various techniques and processes of library work, attention is also given to the underlying theory of organization common to all large enterprises and to current developments in other types of organization, e.g. industry, from which the librarian has much to learn. The application of business methods to libraries is considered, besides the general problems of the library's relation to local and provincial government authorities. The financing and control of libraries, staff problems, and the position of the librarian himself are all examined from a practical as well as a theoretical standpoint. This course is directed at training future library leaders who will know how to undertake the administration of libraries, but also at affording prospective library workers a bird's eye view of how the whole library structure functions, in order to give them a clearer conception of their work and a greater understanding of why the library administrator sets about his task in a particular way.

The course in *Book Selection and Reference Work* aims to develop the student's knowledge of books and their use by readers, and to explain book-stock according to environment and type of library. In *Book Selection* the publications are studied which will be of greatest value to the librarian in the task of choosing books for a particular library. Great importance is attached to a thorough acquaintance with current as well as standard book selection guides in all fields and of all kinds, including periodicals. A special feature is made of publishing and bookselling, including such problems as subscription books, book prizes, and best-sellers, that is, the whole question of book distribution through any type of agency as it affects the bookseller and the librarian. *Reference Work* is a very intensive course: types of reference books are discussed in lectures; every fortnight students are given sets of refer-

ence questions to which they must find the answer from reference books they have been studying and the precise reference where the answer has been found must be stated. These practical exercises take the student about five hours every fourteen days. A good deal of attention is devoted in both Book Selection and Reference Work to such topics as government blue books and Africana. Last year a special lecture on parliamentary procedure was given by the Clerk of the House of Assembly in the House of Parliament in order to explain parliamentary publications and blue books generally. The Professor of Geography gave a lecture in the University Geography Department on maps, atlases, and gazetteers as reference sources. Bibliographical aids to the selection of non-book materials are studied, as well as their use as reference sources. By means of this course the student is given extensive bibliographical training which will enable him to trace and use publications of all kinds.

The contents of the other subjects are on a par with the similar subjects in the South African Library Association syllabus.

Two types of students are eligible for admission to the Diploma course, viz. graduates and matriculants. The former may finish the course in one year, the latter must take a minimum of three B.A. courses (normally English, Afrikaans, psychology, social science, or history) and one foreign language up to matriculation standard to qualify for the Higher Certificate. Four B.A. courses qualify them for the Diploma in due course. The great majority of students have been graduates, only three non-graduates having gained the Higher Certificate, of whom only one the Diploma. At the beginning of 1943 the regulations were amended to enable students to take a degree and librarianship concurrently over a period of four years, at the end of which they obtain both the degree and the professional qualification. This enables students to spread their librarianship studies over a longer period and to absorb their professional training more gradually; they are given ample opportunity of judging whether they really want to take up librarianship as a career; their degree courses benefit immeasurably from their training in cataloguing and bibliographic method and from their more intimate acquaintance with the library's resources. At the end of 1946 the first students to train over a four-year period will complete their studies. In their final year such students at regular intervals undertake cataloguing under supervision in the library's cataloguing department, to give them practice in cataloguing library materials under working conditions.

A candidate on successful completion of his final examinations (for which his class record is taken into consideration) is awarded the Higher Certificate in Librarianship. After he has had "two years' successful practical experience as a full-time paid official in an approved library",¹ and has submitted to the University Senate a testimonial to this effect from the chief librarian under whom he has been working, the Diploma in Librarianship is awarded to him provided he (a) is a graduate or (b) has completed not fewer than four qualifying B.A. or B.Sc. courses (generally including English and Afrikaans) and a modern foreign language up to matriculation standard.

PRACTICAL WORK

Practice training bulks prominently in the course. Each student for either the Diploma or the Certificate course must spend four weeks working in libraries during his period of study at the University. Part of this is generally spent in the Jagger Library, the balance being divided between the South African Public Library Reference or Extension Departments and a suburban library, e.g. Wynberg Public Library. As from 1946 such training takes place during the last week of each term and in vacations. Each student writes a detailed report of work done and the librarian under whom he has worked is requested to furnish a report on his aptitude and performance. In addition, *practical or laboratory work* forms an integral part of the Cataloguing and Classification courses: there is one lecture a week in each subject, followed by a minimum period of practical work of two hours per week. A lecture always precedes the practical on a particular category of material. The class is divided into groups for this purpose, usually seven students to a group: one group is guided by the lecturer in the particular subject, the others by senior library assistants. In a Classification period a student is given twenty to thirty examples to classify and his work is discussed with each student individually. The same applies to the Cataloguing class, where each student must hand in his work weekly on 5 by 3 inch slips. These are revised by the tutor who goes over each student's work with him. The marking of such a large number of catalogue slips each week is a heavy strain on the lecturer, as the work is handed in and corrected before the next practical class. This method of teaching Cataloguing and Classification is time-consuming, but ensures that

each student gets weekly practice in each subject throughout the year and that he receives the maximum individual attention.

During the past four years the size of Cataloguing and Classification classes has necessitated the division of each class into at least three practical groups. The lecturer in charge of the particular subject acts as co-ordinator of the work of all the tutors for that subject. A practice collection of books and other material has been collected for the students' work in Cataloguing. This has all been graded and arranged according to type of material involved or particular cataloguing rule illustrated. Such a practice collection is a most important tool in the teaching of the librarianship course.

Practical Reference Work takes the form of fortnightly lists of reference questions, to answer which the student must make use of a definite type of reference book, e.g. year-books or technical dictionaries or abstracts, which is being currently discussed during lectures on the subject. The student must state the source of the answer to the question, not give the answer itself.

The *Library Administration and Organization* class is taken once a fortnight on visits to libraries of various kinds, e.g. Library of Parliament, South African Public Library, Technical College Library, *Cape Times* Library, United States Information Library, Wynberg and Muizenberg Public Libraries, Hyman Liberman Institute Library, Wynberg Girls' High School Library. Students are given a standard questionnaire as a guide for such visits and are encouraged to ask their library hosts for information on points of detail, particularly with reference to routine processes. They write a report on each library which they are asked to make as critical and evaluative as possible. The Library Administration class also teaches a series of lessons in schools on the use of books and libraries and undertakes publicity displays in the University Library or at Wynberg Public Library.

METHOD AND EQUIPMENT

In addition to the various forms of practical work, teaching is carried on by means of lectures and in some cases by tutorial classes as well. For the Diploma course there is one lecture a week in each subject, with weekly practical classes in Cataloguing and Classification of two hours duration each and a fortnightly tutorial in Book Selection and Reference Work. Students are given a list of six or eight references at each lecture, of reading to be prepared for the following week. Essays and other written work are set in connexion

¹ *Librarianship as a career*. University of Cape Town, 1945. p. 12.

with each course every three or four weeks. Class tests are held in each subject usually once a term.

A great deal of importance is attached to the reading and consultation of professional literature by each student. It is felt that students should have as wide a knowledge as possible of what has been written in periodicals and other librarianship publications on every aspect of library work. Students are expected to become acquainted with the view-points of English, American, South African, and Dominion librarians, as well as representative continental writers. In their teaching, the lecturers have tried to combat the cramming of one or two text-books, because experience has proved to us that the student must be given skilled guidance and shown the road he is to travel, but that it is disastrous to spoonfeed librarianship students by lecturing at them. Rather the guiding principle is to expose the student, as a prospective librarian, to books of all kinds, to guide him to books on other professions from which the librarian can expect to learn, and to aid him in becoming familiar with as wide a variety of books, professional and other, as is possible in the period of his studies. Naturally deficiencies in education and general knowledge cannot be remedied in the space of one year.

In 1939 there was a very small collection of professional literature and journals, but by 1946 this has grown to a total of approximately 1,500 volumes and 140 professional journals on librarianship. This collection is being continually augmented and the use made of it is increasing year by year. It has been found to be the most indispensable tool for the training of librarians. Long runs of back numbers of professional journals have from time to time been added and the majority of English and American publications on library subjects since 1850 have been acquired. The war has prevented the purchase of as large a collection of continental publications on librarianship as is desirable, but it is now hoped to repair this gap in the collection. French, Swiss, Dutch, German, and Belgian professional journals are being taken.

The sections of the library dealing with bibliography, printing, publishing, and bookselling have been increased in scope and size. The University Library's reference collection and collection of cataloguers' reference tools have also been consistently augmented throughout this period. Experience has shown very clearly that a large and comprehensive stock of books and periodicals on librarianship and bibliography is essential if the training of librarians is to be successful, but that

a good basic reference stock is equally indispensable. Not only are reference books basic tools for the teaching of a course in Reference Work, but the student needs to use many reference and bibliographical sources for the courses in Cataloguing and Bibliography. For every book he catalogues the student is expected to look up the full authority for names and dates of authors. For his Bibliography course he annotates the different important subject and other bibliographies; for the history of printing and bookbinding he handles specimens of the work of various outstanding printers and binders of different periods—thus he has to examine each book personally. A large collection of such bibliographies forms one of the most important features of a library school. The Library is adding to, and increasing, the scope of its collection in this field year by year.

Each student is required to compile a bibliography on a subject of his own choice which has been approved by the teaching staff. This is the most comprehensive piece of original work which the student undertakes. The regulations have been so amended that from 1946 a student taking Bibliography may be allowed to hand in his special bibliography up to the end of the January following the November examination in Bibliography. This affords the student more time in which to do a worth-while piece of work. The student has to pass in the examination in Bibliography as well as in the special bibliography, which is graded according to bibliographical style and method, as well as sources consulted and the scope of the project. These bibliographies are deposited in the University Library. A number will be issued during the coming year by the University Library as its first publication in a numbered "Librarianship Series".

CERTIFICATE IN LIBRARIANSHIP COURSE

During the past two years the need for another course of a more elementary nature has become evident to the lecturing staff. The existing public libraries in the Cape Province, of which there are 173, are beginning to appeal for librarians with a knowledge of the rudiments of library work, and better salaries are being offered. Public libraries in places like Strand, Grahamstown, Paarl, Queenstown, Rondebosch, Oudtshoorn, and Cradock would probably, if and when vacancies occur, appoint trained librarians should they be available. Muizenberg Public Library has obtained the services of one of our trainees. Last year an Orange Free State school advertised for a school librarian at a fair salary. There was not a single qualified applicant. The establishment of the

rural library scheme in the Cape has also brought home the need for a large number of library assistants, who have had at least a modicum of library training. For small-town librarians and junior assistants in the larger libraries a more elementary type of training is required than that provided in the Diploma course. In view of all these developments a syllabus was drawn up some two years ago which was approved by the University Senate and Council; the institution of such an additional course was finally sanctioned in June 1945 and provision made for the additional teaching staff required. With the additional assistance of part-time lecturers from outside the Library, such as Mrs. B. H. Robinow, B.A., F.S.A.L.A., formerly of the Witwatersrand University Library staff, and Mr. A. M. L. Robinson, B.A., F.L.A., Sub-Librarian, South African Public Library, as well as that of Miss M. W. Snelling, F.L.A., Librarian-in-charge of the University Music Library, it was possible to offer the new Certificate in Librarianship course at the beginning of 1946.

Admission to the Certificate course is open to matriculants who only spend one year at the University as full-time librarianship students. The course consists of the following subjects:—

- Library Practice : 2 lectures and 1 practical per week
- Book-stock and Assistance to Readers : 2 lectures and 1 practical per week
- Elements of Practical Cataloguing and Classification: 1 lecture and 2 practicals per week
- Book Production: a half course of 1 lecture per week
- General Literature : a half course of 1 lecture per week.

The course will be of as practical a nature as it can be made, in order to train students who are able to cope with library routine processes in so far as a librarian of a small-town library or of a branch library, or a junior assistant in a larger system, or a school or children's librarian should be familiar with them. In practical classes connected with most of the subjects students will be handling a collection of books from every possible angle: compiling an order list, ordering the books, checking the booksellers' invoices, accessioning, cataloguing and classifying the books, making the actual catalogue cards, and filing them, marking, pasting, and labelling the books, circulating them, shelf-reading and stock-taking. We are trying to integrate the various subjects as closely

as possible, e.g. to study the literary history of a period in relation to the books to be selected for library stock, and to study cataloguing of the books so acquired. Actual library situations will be reproduced as closely as possible in relation to every topic studied.

Special consideration is being given to the training of assistants for children's and school library work. In the lecture room for the Certificate course some specimen furniture and shelving is being installed. This is of the unit type in which storage cupboards, display boards, shelving, periodical racks, and tilted shelves are all combined, with some low shelving too. A specimen school library collection will be shelved round the room, divided into the following categories: school library reference books, books for children under 10 years, books for the 10-15-years group and teachers' and school librarians' reference tools.

The subject *Library Practice* will really be a study of library house-keeping and routines. The weekly practical will be spent in bringing into operation the topics dealt with in the lectures.

In *Book-stock and Assistance to Readers* the student will be made familiar with the books and authors found on the shelves of adult lending libraries and children's libraries. Children's literature and its historical development will be studied as a special subject. The relations of library and reader are examined in detail, especially as to what the term "library service" involves and what a small library can do to promote better service to its readers.

Elements of Practical Cataloguing and Classification involves the use of the catalogue and the interpretation of it to readers, as well as the practical problems of cataloguing and classification for small libraries and school libraries.

The two half courses in *Book Production* and *General Literature* are aimed at giving the matriculant rather a more bookish background and increasing his general knowledge. The physical book will be analysed, studied from all possible angles, and the student taught to realize the aesthetics of book-making. Book-buying and book-selling will be considered as practical problems for the librarian. In *General Literature* the history of literature will be studied from the librarian's point of view, that is, the standard books and authors of all ages and literatures, which may be found in any library, each book and author in relation to the broad general developments of its period and country.

(To be concluded)

SOUTH AFRICAN LIBRARY ASSOCIATION

EXAMINATION RESULTS JULY 1946

ELEMENTARY EXAMINATION

Whole examination

The following candidates have now qualified for the Elementary Certificate :—

Class 1

Sinclair, Miss J., State Library

Class 2

Coetzee, Miss A. J., Germiston P.L.
 Kirchhoff, Miss V. M., State Library
 Moul, Mrs. S. M., Kimberley P.L.
 Thomson, Miss H. J. A., Germiston P.L.
 Van Zyl, Mej. R. B., U.O.D. Biblioteek, Pretoria
 Wilkinson, Miss M. (Sr. Mavis, C.R.), Grahamstown Training College

1. *Book-stock—General*

4 entered and passed

Kirchhoff, Miss V. M., State Library
 Tsewu, Miss T. P., Howard Pim Library, Fort Hare
 Welsh, Miss C., Johannesburg P.L.
 Wilkinson, Miss M. (Sr. Mavis, C.R.), Grahamstown Training College

2(a). *Boekevoorraad—Afrikaans*

10 ingeskryf, 7 geslaag

Kirchhoff, Miss V. M., State Library
 Moul, Mrs. S. M., Kimberley P.L.
 Nortjé, Miss A. E. S., U.E.D. Library, Pretoria
 Sinclair, Miss J., State Library
 Thomson, Miss H. J. A., Germiston P.L.
 Welsh, Miss C., Johannesburg P.L.
 Wilkinson, Miss M. (Sr. Mavis, C.R.), Grahamstown Training College

2(b). *Book-stock—English*

26 entered, 25 passed

Balcomb, Miss M. I., Durban M.L.
 Blampied, Miss Y. de B., State Library
 Buss, Miss J. A., Durban M.L.
 Coetzee, Miss A. J., Germiston P.L.
 Colepeper, Miss P. E., Durban M.L.
 Collis, Miss S. B. E., *Natal mercury*, Durban
 Eve, Miss E. G., State Library
 Gavronsky, Miss I., Germiston P.L.
 Jorgensen, Miss E. M., State Library
 Kemp, Miss S. D., Division of Botany Lib., Pretoria
 Kirby, Miss L. L., Durban M.L.

Kirchhoff, Miss V. M., State Library
 Lewis, Miss J., Durban M.L.
 Nunan, Miss H. I., State Library
 Olivier, Mej. J. M. P., Pretoriase Tegniese Kollege
 Payn, Mrs. P. E. B., Durban
 Rose, Miss P., Durban M.L.
 Smith, Miss L. D., Durban M.L.
 Tsewu, Miss T. P., Howard Pim Library, Fort Hare
 Van Zyl, Mej. R. B., U.O.D. Biblioteek, Pretoria
 Welsh, Miss C., Johannesburg P.L.
 Wilkinson, Miss M. (Sr. Mavis, C.R.), Grahamstown Training College
 Williams, Miss J. L. Pilkington-, Transvaal Prov. Lib., Pretoria
 Williamson, Miss G., State Library
 Woodward, Miss E. J., Germiston P.L.

3(a). *Library Administration* and 3(b). *Classification and Cataloguing*

(Both to be passed at the same examination)
 21 entered, 9 passed

Austin, Miss B. M., Grahamstown P.L.
 Balcomb, Miss M. I., Durban P.L.
 Blampied, Miss Y. de B., State Library
 Scholtz, F., Transvaalse Prov. Bibl., Ermelo
 Stander, Miss E. M., U.E.D. Library, Pretoria
 Thomson, Miss H. J. A., Germiston P.L.
 Tsewu, Miss T. P., Howard Pim Library, Fort Hare
 Wilkinson, Miss M. (Sr. Mavis, C.R.), Grahamstown Training College
 Williams, Miss J. L. Pilkington-, Transvaal Prov. Lib., Pretoria

INTERMEDIATE EXAMINATION

Whole examination

The following candidates have now qualified for the Intermediate Certificate and the Associateship of the Association :—

Class 2

De Vos, Miss M. D. H., State Library
 Douglas, Miss D. A., State Library
 Hughes, Miss M. E., Johannesburg P.L.
 Morrish, Miss T. P., Johannesburg P.L.
 Nourse, Miss M. G., Witwatersrand Univ. Library
 Peters, Mrs. M. A., State Library

EXAMINATION RESULTS

59

Reitz, Mrs. M. T., Dept. of External Affairs,
Pretoria
Robinson, H. M., Transvaalse Prov. Bibl.,
Ermelo

1. Book-stock

12 entered, 7 passed

Cabeke, Miss P., Witwatersrand Med. Lib.
Dick, Miss A. C., Witwatersrand Med. Lib.
Kichenside, Miss P. B. M., Durban M.L.
McDonald, Miss O. H., Natal Univ. Coll.
Library, Pietermaritzburg
Robinson, H. M., Transvaalse Prov. Bibl.,
Ermelo
Smuts, Mej. E. H., Universiteitsbiblioteek,
Stellenbosch
Wilkinson, Miss M. (Sr. Mavis, C.R.),
Grahamstown Training College

2. Library Administration

13 entered, 7 passed

Douglas, Miss D. A., State Library
Kietzman, Miss K. M., Johannesburg P.L.
Morrish, Miss T. P., Johannesburg P.L.
Nourse, Miss M. G., Witwatersrand Univ.
Lib.
Peters, Mrs. M. A., State Library
Robinson, H. M., Transvaalse Prov. Bibl.,
Ermelo
Whitehead, Miss D. M., Witwatersrand Med.
Library

3. Classification

28 entered, 11 passed

Brincker, Miss J., University Library, Stellenbosch
Craggs, Miss P. F., State Library
De Beer, Miss S. M., National Building
Research Library, Pretoria
Du Toit, Miss S. W. R., State Library
Fouché, B., Onderstepoort Biblioteek
Freeman, Miss O. G., Johannesburg P.L.
Hughes, Miss M. E., Johannesburg P.L.
Nourse, Miss M. G., Witwatersrand Univ.
Lib.
Peters, Mrs. M. A., State Library
Robinson, H. M., Transvaalse Prov. Bibl.,
Ermelo
Wilkinson, Miss M. (Sr. Mavis, C.R.),
Grahamstown Training College

4. Cataloguing (new syllabus)

26 entered, 20 passed

Alexander, Miss S., Johannesburg P.L.
Brincker, Miss J., University Library, Stellenbosch

Craggs, Miss P. F., State Library
Crofton, Miss P., Johannesburg P.L.
Dick, Miss A. C., Witwatersrand Med. Lib.
Dixon, Miss E. J. R., Sir John Adamson
Junior H.S., Johannesburg
Friis, T., Transvaalse Prov. Bibl., Witbank
Hadley, Miss A. T., State Library
Hölscher, Miss C., Transvaal Prov. Lib.,
Pretoria
Odendal, Mej. E. M., U.O.D. Biblioteek,
Pretoria
Robinson, H. M., Transvaalse Prov. Bibl.,
Ermelo
Smuts, Mej. E. M., Universiteitsbiblioteek,
Stellenbosch
Terpend, Miss A. L., Johannesburg P.L.
Van der Linde, Mej. E. A., Transvaalse Prov.
Bibl., Pretoria
Van Zyl, Miss S. M., Witwatersrand Univ.
Library
Walker, Miss M. M., Johannesburg P.L.
Whitehead, Miss D. M., Witwatersrand Med.
Library
Wilkinson, Miss M. (Sr. Mavis, C.R.),
Grahamstown Training College
Wood, Miss C. E., C.S.I.R. Library, Pretoria
Zaaiman, R. B., Bloemfonteinse Openbare
Biblioteek

Cataloguing (old syllabus)

2 entered and passed

De Vos, Miss M. D. H., State Library
Reitz, Mrs. M., Dept. of External Affairs,
Pretoria

FINAL EXAMINATION

1(b). Boekevoorraad—Afrikaanse en Nederlandse Letterkunde

2 ingeskryf en geslaag

De Wet, Mevr. E. C., Johannesburgse Openbare Biblioteek
Du Toit, Mej. W. M., Johannesburgse Openbare Biblioteek

1(g). Book-stock—Africana

1 entered and failed

1(h). Book-stock—Books for Children and Adolescents

2 entered, 1 passed

Turner, Miss D. M., Johannesburg P.L.

2(a). Library Administration—General

6 entered, 3 passed

Canin, Miss M., Johannesburg P.L.

De Wet, Mrs. E. C., Johannesburg P.L.
Isaacson, Miss P. H., Johannesburg P.L.

3. *General Bibliography and Modern Book Production*
1 entered and failed

2(b). *Library Administration—Special (i) Public Libraries*

2 entered and failed

Language Test—Italian

1 entered and passed

Brown, Miss J. Blundell, Johannesburg P.L.

Extracts from the minutes of the Administrative Council

Council members. Agreed that Mr. D. Niven be co-opted to the Council as representative of territories not covered by branches, and that Principal Raikes be co-opted as representative of universities and education.

Executive Committee. Agreed that the President, Vice-President, Hon. Secretary, Miss Taylor, and Mr. Immelman comprise the Executive.

Education Committee. Agreed that Principal Raikes be appointed to the Committee, and that Mr. Kennedy and Mr. Stirling be members of the Committee.

BUITELANDSE KORRESPONDENT

ONS het 'n brief ontvang van mnr. Schevenhels, Pol de Montstraat 6, Antwerpen, België, waarin hy o.a. skryf: "Ik ben leeszaal-assistent in de Centrale der Openbare bibliotheken van Antwerpen en tevens hulp-secretaris van de Vlaamse Vereniging van Bibliothecarissen. . . . Weet U misschien een jonge man of een jonge vrouw van ongeveer 25 jaar . . . die er voor te vinden zou zijn met mij te korresponderen over biblioteconomische onderwerpen . . . of over literaire en

andere kulturele vraagstukken. . . . Ik meen dat wij, en in het bijzonder in Vlaanderen, nog veel te weinig weten van de stand van het bibliotheekwezen en van de literatuur in Zuid-Afrika."

Belangstellendes kan die volledige brief, waarin die skrywer sy gewenste briefwisseling nader bespreek, ter insae kry van die Ere-Redaktrise van *Suid-Afrikaanse biblioteke*.

Government Gazette, 5 July 1946
• No. 1406]

[21 June 1946

PROHIBITION OF THE REMOVAL, OR EXPORTATION OF MONUMENTS, RELICS OR ANTIQUES

Under section *ten* (1) of the Natural and Historical Monuments, Relics and Antiques Act, 1934 (No. 4 of 1934), as amended by section *four* of the Natural Monuments Amendment Act, 1937 (No. 9 of 1937), I CHARLES FRANCIS CLARKSON, Minister of the Interior, hereby prohibit the export of any article made of gold, silver, copper, bronze, brass, iron, glass or china; of any piece of furniture, and of any picture,

*book, document, deed,*¹ seal or die, the whole or more valuable part whereof *has for more than one hundred years been in any part of South Africa included in the Union, or which was made therein more than one hundred years before the publication of this notice*, without the written consent of the Commission.

CHAS. F. CLARKSON
Minister of the Interior

¹ Italics are ours.—Ed.

A TALE OF TWO CIVVIES

"Secretary-librarian required by University College of —. Preferably graduate. Librarian's Diploma and/or other experience essential. Salary commences £250 p.a. . . ."

Advt. in daily newspaper
"Dustmen wanted immediately. Steady work and good good prospects for the right men. Starting wages £4. 19s. 6d. per week . . ."

Town Hall notice-board
(Punch, 3 June 1946)

We regret that owing to unavoidable circumstances our appearance is again much overdue. Our next number, due in January, will be combined with the April number.

SCHOOL AND CHILDREN'S LIBRARY SECTION

South African Library Association

Vol. 7

October 1946

No. 2

REFERENCE WORK IN THE HIGH SCHOOL

H. HOLDSWORTH

(Concluded)

REFERENCE books proper fall roughly into the following categories; dictionaries—dictionaries of language, unilingual and bilingual, of speech forms, slang, dialect, usage, of abbreviations, proverbs, biography, and a host of others; encyclopaedias—general, covering all subjects, and special, covering one subject or related subjects; handbooks, like *Students' handbook to Cambridge University*; almanacs, like *Whitaker's almanack*; year-books, like the *Statesman's year-book*; directories, like telephone and city directories; indexes and bibliographies; maps and gazetteers; newspaper services like *Keesing's contemporary archives* and indexes to large newspapers; and subject indexes to periodicals. Not all of these are likely to find a place in the school library. With the exception of dictionaries, encyclopaedias, and atlases most of the reference books suitable for use with children from 14 to 17 years of age are primarily for adults and not intentionally designed for school use.

The unilingual dictionary can be taught as a subject itself: how it gives pronunciation of a word, sometimes alternative pronunciations, its etymology or history, its spelling or various spellings, its several meanings with illustrations of each particular use; how the arrangement can be complex, as in Webster's *New international dictionary*, which contains six alphabets altogether, separates common words from the uncommon, inserts tables of signs and symbols, a pronouncing gazetteer, and a biographical dictionary, and resolves itself finally into an all-purpose reference book. May I mention as class games spelling bees, construction of sentences with difficult words, the substitution in sentences of synonyms or words with similar meanings, and little competitions involving the use of antonyms or words having opposite meanings? I consider Webster's a very suitable book for a high school; its range of words is terrific, its examples terse and good, and it has picture illustrations which are always a desirable asset in a school book. The library

should have standard bilingual dictionaries in the languages taught. A standard work proves to be the best in the long run, and of course it will be used by staff as well as by pupils. Companion volumes to the language dictionaries are dictionaries of phrases and usage with which pupils should become familiar in their lessons on composition: H. W. Fowler's *Dictionary of modern English usage*, illustrating the correct use of words and deprecating in an original and amusing way common misusages, and Roget's *Thesaurus of English words and phrases*, which is a treasury of synonyms and antonyms, and so on.

Encyclopaedias are a first source of reference for almost any subject. General encyclopaedias swell considerably the range of subjects represented in the library and the smaller the number of books the more will be the use made of them. Encyclopaedia reading is, I think, popular among children from what I have been able to gather from parents whose children own private copies and from the popularity in England of encyclopaedic compilations like *Boy's own*. The *Encyclopaedia Britannica* might not be too advanced in many subjects for matriculation students, but the American *World book encyclopedia* is a first choice for a high school as it is written specifically for children from, say, twelve upwards and with due regard for school curriculums. *Die Afrikaanse kindersiklopedie* edited by Dr. Albertyn is essential, being the only one in the language. Only two of the projected eight volumes have yet appeared. Both the *World book* and the *Encyclopaedia Britannica* have annual supplements in the form of year-books which should be bought as guides to recent events.

Almanacs and general year-books contain a mass of statistical and other data, both current and retrospective, relating to this and other lands, which can be allied to text-book information and introduced into, say, geography and current history lessons. Hunting facts relating to foreign countries—currencies used, size of population,

important products—in *Whitaker's almanack* and the *Statesman's year-book* might provide for the pupil the requisite touch of novelty and a stimulus resulting from independent work. The *Official year book of the Union* answers in a brief way most questions about our own community activities.

The gazetteer is an inseparable companion to the atlas giving as it does informative matter which the map does not commonly show. The city directory—an expensive item—can often be acquired by gift a year or so late from private citizens, and older students could be set problems on it. It is a reference book which they will have to consult periodically in later years, it will give them for the time being an idea of the complexity of urban life, the interdependence of citizen and citizen and activity and activity, and of the hive of industry which is the world around them. There are reference books which give information almost peculiar to themselves: indexes to poems, by first line, by title, by author, by subject; indexes to quotations, by author, by subject, by first line; indexes to common phrases, fables, allusions, literary characters, and mythological personages; indexes to curious information like Walsh's *Handbook of curious information* and Kane's *First facts*; dictionaries of custom like Chambers's *Book of days*, and of etiquette like the American Emily Post's *Etiquette*; dictionaries of rhymes.

Reference work and pupil information hunts need not, however, be restricted to pure reference books. Any book, any material, in fact, will be used for reference when the need arises. Curriculum subjects should be well wrapped round with general non-fiction reading matter, and there should be a wide frill of books on matters not directly concerned with school subjects but, nevertheless, certainly concerned with pupils' activities and their present and future development—books and periodicals on sports, hobbies, art, music, vocations of all kinds; books on how to take the chair for members of the debating society; books on handicrafts and cookery. School guidance in vocational matters is very important because pupils go directly into trades from school and the time of serious consideration about one's vocation should be during school years so that a decision, so far as a decision can be taken at such an age, will be based upon a real interest and not upon a mere fleeting whim or momentary consideration. And the development of pronounced interests can be encouraged and fostered by the school (I leave out of account here home influence) by offering a wide selection of books and periodicals on careers and encouraging reference to them in class in relation to lessons:

vocational biography—the life of great doctors, scientists, artists, etc.; vocational fiction dramatizing careers; vocational monographs outlining seriously the nature of vocations. The following references come to mind: Lingenfelter, M. R.: *Vocations in fiction*, 2. ed. A.L.A., 1938, giving 463 novels outlining 102 vocations; Nelson's Life career series; Oxford University's "To-day" series.

There remain the last sources of reference—home-made sources—the picture file and the information file. Each consists of material placed in folders and filed by subject: in the information file cuttings of articles and news items from newspapers and magazines, in the picture file illustrations of all sorts taken from similar sources and including postcards and reproductions. The maintenance of these files is an educative force, obliging the pupils to search for material—a form of reference work—to evaluate it, index it by subject, and weed it out when out of date. A glance at the files reveals an array of subjects tempting curiosity and inviting investigation, and in using them pupils will appreciate that there are other sources of information than text-books and periodicals to which one must have recourse. The expense involved is likely to be limited almost to the cost of the files if students are encouraged to procure material from home resources.

The whole question of reference work in schools is closely linked up with methods of teaching. From a librarian's point of view the education of a child is incomplete unless he has been given time and opportunity to seep himself in an atmosphere of books, and a book collection is incomplete unless it has as its core books to which quick reference can be made for all the most important subjects and examples of books which are taught at this school stage not so much for their subject matter as for their own sakes as books—like directories; slight acquaintances now but familiar friends-to-be. In such an atmosphere, with such a collection, and teaching methods which will contribute to the creation of the one and the use to the other "we may hope to bring [the pupil], in time, to that stage as an adult at which he will desire to advance his own education by every possible means".¹ Let them all loose then, or as far as a kindly, guiding leash will permit, on these books that they might fully satisfy what Quiller-Couch has called the "inquisitive instinct" "to know the why of things", "the one which gives most trouble to parents, parsons, governesses, conventional schoolmasters" and, one might add, children's librarians.

¹ EARLE, F. M. *Reconstruction in the secondary school*. Univ. of London press, 1944. p. 137-38.

MAKING CONTACT WITH CHILDREN

MARGARET M. BARNES

JUST as an adult library which is fulfilling its purpose should become the cultural centre of a town, so in the Durban Junior Library we strive to touch the lives of our children in as many ways as possible. We do not insist that the contacts must necessarily be "cultural"—"Culture" is a vague word open, as we all know, to many conflicting definitions—but we do believe that anything which interests a child has direct bearing on his development, and is therefore important to us as a library. One of the obstacles to general reading in the past has been that foggy haze with which so many misdirected enthusiasts have contrived to surround "Literature", making it appear something inaccessible, impractical, and of no great importance anyway. Some lucky children see through this fog and know it for the nonsense it is, but there are others—healthy, intelligent, worth-while children—who are dismayed by the seeming aloofness of "books".

By bringing books into direct touch with their daily work and hobbies much of this distrust of books and libraries can be broken down, and for some time past we in the Durban Junior Library have realized that children who are not naturally readers have to be approached by way of their school, their home, their hobbies, or their games, in order to entice them into the Library.

Of these outside interests, the greatest—because from our point of view it is the most successful—is the school. In Durban we have been particularly fortunate in having a sympathetic board of inspectors and school teachers who are willing to co-operate with us in every way, even to the extent of taking extra and voluntary library duty, which, in a busy day, is no little thing.

Like many other centres in the Union we run a Schools Library Service which sends boxes of books to each school in Durban. These boxes are changed twice a year, the returned books being re-arranged and new selections prepared for terms starting in August and February. When we started this service in 1938, we hoped that it might relieve some of the congestion in our Junior Library, but it had the opposite effect. Children who heard of the Library for the first time through the books we sent to school came down to the City Library, like *Oliver Twist*, asking for more!

Talks to schools are given in the Library in preference to giving them in the schools. On

occasions when I have been asked to lecture to a whole school I have done so in the school hall, but for many reasons, selfish as well as altruistic, I prefer to talk to a small class in my own room. A list of talks is prepared, each one fitting into the syllabus of some standard or other, and this is sent, with the approval of the inspectors, to each school. Teachers then select what subject they wish and arrange to bring their classes to the Library for my talk. Whatever the subject may be, the talk ends with a "Now I can show you how you could have found out all that by yourself", and a general idea of how to use a library is given.

From time to time teachers ask for special lists of books—books with a geographical background, books on set periods of history, books with recreational interest or on hobbies, and quite often they want books to help them in the preparation of their own lessons. As a further help in this direction we have a collection of illustrations gathered from all sorts of sources throughout many years. These pictures are arranged by subject according to school lessons—history, geography, maps, composition, biography, literature, scripture, and so on. A collection of gramophone records is also kept for the use of teachers.

We also arrange to have the results of all school examinations pinned up in our room. These lists stay for a week or so and are then kept for reference until the following year.

Until Broadcast House discontinued the Young Natal programmes, we were allowed to give reviews of juvenile books on the air once a month. These reviews were prepared by me, sometimes given entirely alone and sometimes in the form of an interview with senior members (our membership includes matriculation standard) who read the books especially for the broadcast.

We keep our eyes and ears alert for any popular competitions that are being run by magazines or children's groups, for we are sure to be asked about them sooner or later. The Saturday evening "Nutcracker" competitions, which Broadcast arranged ostensibly for adults, appealed strongly to our senior members and certainly were a god-send to us. I made a point of either listening myself or making certain of a deputy who did, and jotted down the questions. Forewarned is not only fore-armed but in my case was also fore-informed and by next day I was ready to show children how to set about looking for the answers

by the shortest route. I can't remember a time when teaching children how to use reference books has been so easy and so pleasant.

Every Saturday morning the Durban Museum gives a short cinema show for children. It is quite free and therefore very well patronized! It is preceded by a story read by the guide lecturer and this story is provided by us in the library. Just in case that tale whets the appetite of some listeners, we have more of the same type ready for issue.

Topical events, such as school sports, scout rallies, the opening of the model yacht pond on the beach, Victory Day, the arrival of the circus, and so forth, are used as subjects for our bulletin board and picture displays.

One connexion, which may be rather less direct in its approach to children, is made through the Women's Institutes. From time to time I am invited to speak at their monthly meetings, and invariably my subject is directly concerned with children's reading. I have no means of estimating what result these talks have had in making new library members.

With scouts and guides the Junior Library has always worked on happy terms. I am the examiner for their Reader's Badges, and although I have never been a guide myself I am always invited to their Annual General Meeting and always make an effort to attend it. Once or twice I have been asked to address scout masters or guide mistresses and I have always been grateful to them for their help in suggesting lists of books useful to their children.

In children's own individual hobbies we have always tried to take a practical interest, although

it does become a little difficult when a boy produces a heap of dead grubs which he wants you to identify, or a girl brings her bush baby who is not feeling very well and asks your advice on feeding! But that sort of query does not often occur and we do have our calmer moments of comparatively simple requests. Ideas for parties, for fancy dress costumes, for school plays, or private concerts are easily dealt with.

At one time we had poetry study groups—small coteries, cliques if you like, of children who had a "pash" for Tennyson, Browning, Keats, or any of the other poets whom we have all adored in our time. These groups ran themselves very casually and comfortably; all that I did was to provide literature about the particular poet who was in favour at the moment and "put in my speak" now and then. The war, however, changed these groups into working parties who came then for ideas for bazaars for war funds, or patterns of socks and balaclavas.

So far these library contacts have been direct and legitimate. This last instance is neither. During the summer holidays the Durban Music Department runs children's competitions on the beach and at least once a season I am asked to judge the entries. Now I have no illusions at all about my part in this type of work, but I was mightily pleased to learn that some competitors were tempted to joint the library because they had met "the lady from the library" when they had entered their dog or their doll or their handwork for competition on the beach. Books can't be so far off and out-of-reach if they tell you about dogs and dolls and carpentry and all the other things that fill a child's day.

SCHOOL LIBRARIES IN CAPE TOWN

Communicated by Miss M. E. GREEN

A NEW school library has recently come into being at the South African College High School, Cape Town. Hitherto little provision was made for the library needs of the junior forms, although the seniors have a library room with a stock of standard reference books and many literary classics. The junior library is now established in a classroom given over for the purpose. Mr. Saunders, the teacher in charge, has brightened the woodwork with a coat of green and the wall blackboards with posters and displays of book jackets. In the centre of the room are tables and chairs and around the walls are the shelved cupboards where the books are kept.

The stock is composed largely of gifts and has needed weeding and careful checking for damaged and missing pages before being brought into use. New books are being added and their bright casings bring new life to the shelves.

All books are accessioned in a loose-leaf ledger. This method shows its merits when two or more people

are working on a batch of books at the same time, as the pages can be numbered and distributed and re-assembled when filled. A loose-leaf ledger is used for the author catalogue. No elaborate cataloguing is attempted, but strict alphabetical arrangement of authors, one to each page, is adhered to. The books are classified by an abridgement of Dewey and as there is at present no subject index to which to refer the main outlines of the scheme are printed on the remaining blackboard space, with different coloured chalks for the different classes.

This library has been functioning only two months and is an inspiring object lesson in what can be done with such material as lies to hand.

How to become a librarian appeared in the *Cape Times* week-end magazine of 20 July 1946, p. 13, in the "Career service" series run by the *Squirrel Club* (Junior section).